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ORIGINAL ARTICLES.

TECHNIC OF ABDOMINAL SALPINGO-OÖPHORECTOMY WITHOUT PEDICLE.[1]

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A PAPER upon this subject would have been more acceptable before vaginal hysterectomy, vaginal salpingo-oöphorectomy, and vaginal incision and drainage had become well-established operations. Although these operations have a wide field of usefulness, abdominal salpingo-oöphorectomy is the operation of election in many cases of pelvic disease, and is, therefore, deserving of careful study. I believe that many of the unfavorable results which have followed abdominal salpingo-oöphorectomy have been due to faulty technic. The technic of the operation has been developed by so many surgeons that it is impossible to give each the credit due him, and to attempt to give the development of the operation in detail would unduly lengthen this paper.

I. CURETTAGE OF THE UTERUS.

This procedure should always precede abdominal section for the removal of the uterine appendages, because in these cases the endometrium is usually so diseased as to interfere with the recovery of the patient if this part of the operation is omitted, and because thorough cleansing of the uterus, vagina, and vulva, is imperative in case vaginal drainage is required.

The abdomen, vagina, and vulva, having been previously prepared, the vagina and vulva are again thoroughly cleansed under anesthesia. The uterus is then dilated, curetted, irrigated, and, if septic, packed with iodoform gauze. The vagina and vulva are then cleansed again in order to remove any septic material which may have escaped from the uterus during curettage. The pelvic organs are next carefully examined, and if any doubt exists as to the operation of election, an exploratory incision is made through the upper part of the posterior vaginal wall. The index finger is passed through this opening and the uterus and appendages are carefully examined. Great care should be taken to avoid rupture of an abscess into the general peritoneal cavity. If an exudate exists between the vagina and rectum, it is probably extraperitoneal, and should be evacuated through a vaginal incision and the cavity thoroughly cleansed and packed with gauze. If the exudate is not extraperitoneal, the swelling would not extend far below the point at which the peritoneum is reflected from the rectum to the uterus. If positive indications for abdominal incision exist, the vagina is sponged dry and packed with iodoform gauze, and the patient is placed in a moderate Trendelenburg position.

II. ABDOMINAL INCISION.

The abdomen having been thoroughly prepared is washed with ether, iodoform collodion is painted over the umbilicus, and an incision through the abdominal wall, two or three inches long, is made along the linea alba through the skin and subcutaneous fat down to the aponeurosis. The lower end of the incision should be at about the upper border of the pubes. If the uterine appendages appear to be fixed high in the pelvis, an incision of the same length should be made, but nearer the umbilicus. The aponeurosis is then incised, whereupon the sub-peritoneal fat is exposed, this may be separated with the finger or incised, whereupon the peritoneum will come into view. The hemorrhage is controlled by forci-pressure. The peritoneum at the upper end of the incision is caught on either side superficially by two forceps and elevated. If the fold thus formed is translucent it does not contain omentum, intestine, or bladder, and is incised between the forceps. The opening in the peritoneum is then enlarged, care being taken not to injure other structures. The peritoneal incision should never be carried down as low as the incision through the skin; this does not interfere with freedom of manipulation, and protects against the danger of injury to the bladder.

Should the incision through the aponeurosis enter the sheath of the rectus, as usually occurs, the inner border of the muscle may be found by pushing the handle of the scalpel along the upper border of the sheath on either side of the incision; then by placing the index fingers between the recti muscles, the tissues above the peritoneum

[1] Candidate's paper, presented for admission to the Am. Gynec. Soc., May, 1896.

may be easily separated the whole length of the wound. When the peritoneum is much thickened by disease, great care should be exercised in incising it. The incision is enlarged to facilitate the operation, when numerous adhesions or very large appendages are present.

III. SEPARATION OF ADHESIONS.

1. *Adhesions of Omentum.*—If the adhesions are not strong they are separated; if strong, they are not separated, unless the uterus cannot otherwise be reached. Adhesions are separated either by rubbing them between the thumb and index finger, or by pushing the omentum from the organ at the point of attachment with the fingers covered by gauze. None of the omentum is excised unless it is necrotic, or much thickened by inflammatory exudate. All bleeding points are carefully ligated with fine catgut or silk.

2. *Adhesions of the Intestines.* — Intestino-uterine adhesions are separated between the fingers or with gauze as described above. If the adhesions are so firm as to endanger the integrity of the intestinal wall, the peritoneum covering the uterus is incised above the point of adhesions, and the adherent portion of the peritoneum is separated from the uterus and left attached to the intestine. The intestine is not separated at the time from uterine appendages, or from the broad ligaments, because, I believe, less time is required and less danger of injury to the intestine is incurred by immediately proceeding to enucleation of the uterine appendages.

3. *Adhesions of the Uterine Appendages.*—If pus is present, the intestines are systematically walled off from the pelvis by the free use of gauze pads. In case of rupture of the abscess during the process of enucleation, a basin of strips of gauze should be ready to take up the pus as fast as it escapes. With the uterus as a landmark, the appendages are examined, and enucleation is commenced at the place where adhesions are least firm and fibrous.

If a large abscess with extensive firm adhesions exists, the pus is removed by aspiration, and the punctured wound closed by forceps, ligated, or protected with gauze. If during enucleation adhesions, which seem to be formed by a solid exudate, are encountered, great danger of rupture exists, because this condition always indicates points at which leakage of pus has occurred. Adhesions of this character should always be left until all fibrous adhesions have been separated, and if the abscess is large, should not be separated until the pus has been removed by aspiration. In severe cases, time can be saved and the danger of rupturing the abscess lessened by commencing the enucleation low down posterior to the uterus, or on the uterine side of the appendage. This is preferable to making the enucleation along the tube on the upper surface from the uterus as is still frequently recommended.

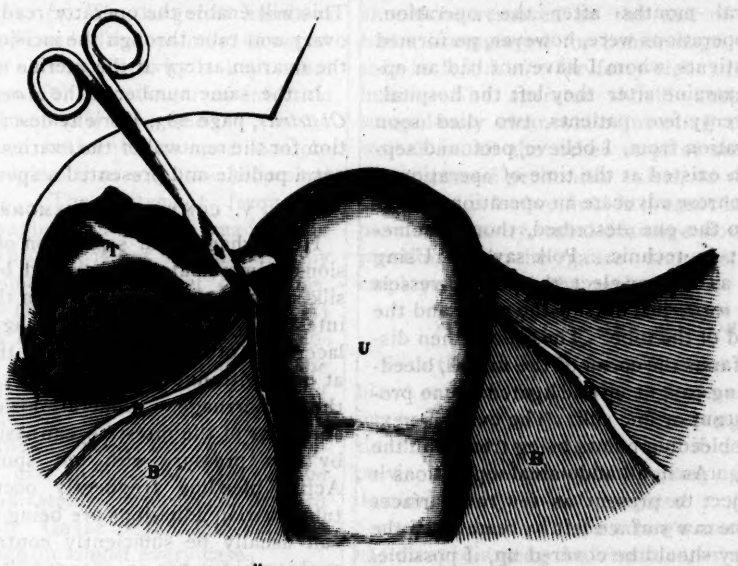
It should be remembered in this connection that tubo-ovarian abscesses are frequently posterior to the broad ligaments, and that they should be entirely rolled out from this location before attempting to bring them into the abdominal wound. When the appendages are free from adhesions to the uterus, broad ligaments, and pelvic wall, any intestinal adhesions which may be present, can usually be separated with surprising facility and safety. If adhesions of the intestines to the broad ligament exist, and are so firm that their separation will result in serious injury to the intestine, they should be left undisturbed. This method of enucleation, which must be accomplished largely by touch, is, I believe, far preferable to the separation of all adhesions under sight, which necessitates working from above downward. Some surgeons advocate the separation of all adhesions, and others believe in separating as few as possible, consistent with thorough removal of the diseased appendages. It would seem good surgery to break up all friable adhesions and to disturb the very firm adhesions as little as possible. The separation of firm adhesions frequently results in serious injury to the intestine, and the raw surfaces thus made are certain to become adherent, and the new adhesions may do more damage than the original ones. In a recent operation, after I had enucleated one appendage, it seemed impossible to enucleate the other on account of extensive and firm intestinal adhesions. After removal of the uterus, however, it was easily enucleated.

IV. EXCISION OF THE APPENDAGES AND SUTURE OF THE BROAD LIGAMENTS.

After all adhesions have been carefully separated, one of the appendages is raised into the wound, and the abdominal wall is retracted with a Simon speculum, or a broad, short retractor placed anterior to the broad ligament. A medium-sized catgut suture about eighteen inches long, armed with a blunt pointed needle about 1½ inches long, is then carried under the infundibulo-pelvic ligament just deep enough to include the ovarian artery. This suture is tied, the short end is cut off near the knot and the long end is left to suture the broad ligament. The tube and ovary

are next separated from the broad ligament by dividing the latter close to the tube from a point just external to the tube and ovary, and by continuing the division until the uterus is reached. All bleeding points are caught with forceps, and the uterine artery is clamped immediately underneath the tube before it is severed (see figure). The tube is excised flush with the uterus, or if its uterine portion is diseased, the dissection is carried into the horn of the uterus to a point beyond the affected portion.

The wound is then closed with the long end of the suture just mentioned, which was used to ligate the ovarian artery, by the glover's stitch, an assistant holding the end of the suture constantly taut. The stitches are inserted about one quarter



SALPINGO-OÖPHORECTOMY WITHOUT PEDICLE.
Left ovary and tube have been excised and wound closed by suture. Right ovary and tube separated from broad ligament, long end of suture left for closure of wound.

of an inch apart, and care is taken to bring the edges of the wound in as close apposition as possible, so as to leave little or no raw surface. If the broad ligament is friable, care should be taken not to make so much traction on the suture as to cause laceration of the tissues. The uterine tissue may also be lacerated by excessive traction on the suture. All or part of the ovary may be left if not diseased. The appendage of the other side is treated in like manner.

The suture above described has controlled the hemorrhage perfectly in every case in my experience. If the uterus is so diseased as to be likely to interfere with perfect recovery, it is amputated through the cervix, after the uterine arteries have been ligated, and the stump is closed by continuing the glover's suture from one broad ligament to the other. The only objection to suture of the broad ligaments is that it takes more time than is required for ligation of the pedicles, but this does not obtain in cases where the pedicles are very broad, or where the broad ligaments are friable.

The advantages of suturing the broad ligament are: (1) No pedicle is made. It is well known that the pedicle is liable to retract and cause hemorrhage, to become adherent to intestines, to remain painful, and to be a focus for infection and suppuration. (2) The entire tube and ovary can be excised. (3) Very little tissue is included in the suture and very little tension is made on the broad ligaments. (4) Little or no raw surface remains to form adhesions or cicatrices. (5) Absorbable sutures may be used without fear of hemorrhage. (6) Blood-vessels are ligated while in normal location, which protects against retraction and hemorrhage.[1] (7) When the broad ligaments are friable hemorrhage can be more easily controlled by suture than by ligature *en masse*. (8) Bleeding points in the posterior surface of the broad ligament are more accessible after suturing than after the broad ligament has been puckered by ligature. After the use of the ligature *en masse*, swelling frequently occurs about the pedicle or in the broad ligament, as the result of hemorrhage, or

[1] C. B. Penrose, *American Journal of Obstetrics*, August, 1895.

inflammatory exudate. So far as I know this has never occurred after the employment of this method of suture.

I have employed this method of suture in every abdominal salpingo-oöphorectomy which I have made since January, 1895, and I think the results have demonstrated its advantages. In only one case has bloody uterine discharge occurred after entire removal of the uterine appendages, and this was in a case of double pyosalpinx closely following abortion. A recent curettage in this case showed the endometrium to be thickened by glandular inflammation and stopped the hemorrhage.

Atrophy of the uterus has occurred, with the above exception, in all the patients I have examined several months after the operation. Many of the operations were, however, performed on hospital patients whom I have not had an opportunity to examine after they left the hospital. Of about seventy-five patients, two died soon after the operation from, I believe, profound septicemia, which existed at the time of operation.

Polk and Penrose advocate an operation similar in principle to the one described, though somewhat different in technic. Polk says:[1] "Using silk or catgut, as one may elect, the ovarian vessels are ligated *en masse* just outside the ovary and the fimbriated end of the tube. The tube is then dissected out as far as the cornu of the uterus, bleeding points being caught up and ligated as one proceeds, with catgut or fine silk. The ovary is next cut away, the bleeding points being treated in the same manner. As in all abdominal operations it is a prime object to present as few raw surfaces as possible, the raw surface left by removal of the tube and ovary should be covered up, if possible, by stitching back the round ligament to the line of the broad ligament, immediately below that just occupied by the tube; the tube should be amputated at the cornu by an oblique incision from behind, forward and inward, thus leaving a surface which can be apposed to the round ligament. . . . It will have been noticed that even in the radical removal of the appendages ligation of the tube is avoided. This is a measure to which the writer attaches great importance, because he believes that many of the recurrent symptoms to which the patients are often subjected are due to the presence of the ligature upon the tube." Penrose[2] has described an operation as follows: "The first ligature is passed through the broad ligament near the pelvic wall, securing the proximal portion of the ovarian artery. The second ligature may include the Fallopian tube if there is no disease of the isthmus, or it may be passed immediately beneath the tube if it be necessary to exsect the tube from the uterine cornu. With the ligatures thus placed, the tube and ovary may be completely and safely removed. Usually there is no bleeding from the portion of the broad ligaments between the ligatures. Any bleeding which does occur can be readily controlled by separate ligatures. It is not necessary to place both ligatures before cutting away the ovary and tube. The first ligature may be placed about the aproximal portion of the ovarian artery and then the infundibulo-pelvic ligaments may be cut, bleeding from the distal end being controlled with forceps. This will enable the operator readily to bring the ovary and tube through the incision, and to ligate the ovarian artery at the uterine cornu."

In the same number of the *American Journal of Obstetrics*, page 283, I briefly described this operation for the removal of the ovaries and tubes without a pedicle and presented a specimen.

V. CONTROL OF HEMORRHAGE.

Hemorrhage from separation of omental adhesions is immediately controlled by fine catgut or silk sutures, or ligatures. If in the separation of intestinal adhesions, hemorrhage occurs from laceration of the intestinal wall, the rent is closed at once with fine catgut sutures, which will stop the hemorrhage. General oozing from slight abrasions of the intestine, can easily be controlled by firm pressure with hot sponges or gauze. Active bleeding frequently occurs, while firm tubo-ovarian adhesions are being separated. This can usually be sufficiently controlled by firmly packing hot gauze or sponges against the bleeding surface. Should the hemorrhage persist, a forceps should be placed on the broad ligament external to the ovary and tube on the side from which the hemorrhage occurs, in order to secure the ovarian artery, and a forceps should be placed on the broad ligament at the cornu of the uterus to secure the uterine artery. Hemorrhage from the separation of uterine adhesions may be controlled with suture, but if after both appendages have been excised, hemorrhage occurs from numerous or extensive abrasions, hysterectomy should be performed. Hemorrhage from the pelvic wall may be checked with fine sutures or gauze packing.

VI. DRAINAGE.

The term "drainage," as here considered, refers to removal of fluid, to quarantining necrotic or

[1] "Clinical Gynecology," 1895, p. 579.
[2] *American Journal of Obstetrics*, August, 1895, p. 223.

infected tissue, and to tamponnade for hemorrhage. Drainage should be employed: (1) When general septic peritonitis exists. (2) When septic matter has escaped into the general peritoneal cavity. (3) When necrotic or septic tissue is left in the pelvic cavity. (4) When hemorrhage exists which cannot be readily controlled by ligature, suture, or temporary pressure. (5) When an intestine has been so injured that fecal fistula is liable to occur.

The vaginal route of drainage should be almost invariably employed in preference to the abdominal route because: (1) The most dependent portion of the abdomen is drained. (2) Drainage is downward. (3) The surface which usually requires drainage is in, more or less, close proximity to the vagina. (4) The danger of hernia is diminished. (5) Fewer adhesions must of necessity occur, as the abdominal cavity is kept more free from exudates. (6) The danger of infection of the abdominal wound is diminished.

In my experience, better results have been obtained with the vaginal than with the abdominal route of drainage. The statement frequently made that the vagina can not be made clean enough to drain through, is not substantiated by the results obtained from vaginal operations. Drainage through the abdomen is preferable: (1) When the surface to be drained is near the abdominal incision. (2) When the opening into the vagina can not be readily made on account of adhesions posterior to the uterus. (3) When septic disease of the vagina or vulva exists. Combined abdominal and vaginal drainage may be employed when indications for drainage by both routes are present. Gauze is the best material for vaginal drainage in almost every case.

I employ the following technic in the application of vaginal gauze drainage: Before the sponges which protect the intestines are removed, the patient is lowered from the Trendelenburg to the horizontal position, and the point of a long sharp-pointed scissors, curved on the flat, is pushed from the vagina into the peritoneal cavity posterior to the uterus. The blades of the scissors are then separated and withdrawn. With one finger inserted from the vagina, and one from the abdomen, the opening is dilated to the desired size. If the surface to be drained is large, the end of a piece of gauze, two feet wide and folded, is then carried into the abdominal incision out through the vaginal opening, caught by the finger or forceps and pulled out over the perineum. As little of the gauze as is required to cover the necrotic or infected tissue, or to stop hemorrhage is left in the peritoneal cavity. The punctured wound will not usually bleed unless the tissue is indurated. If hemorrhage occurs it may be necessary to pass a suture and ligate, or to use forci-pressure through the vagina. Little or no more time is required for the application of vaginal gauze drainage than for abdominal drainage.

When the slightest indication for drainage exists, I believe the vaginal gauze drainage should be employed because it is almost impossible for it to do harm, and it may do much good. If active drainage is required, the end of the gauze should project over the perineum so as to get siphonic action, and the end of the drain should be covered by a pad of gauze which should be changed as often as it becomes moist. The drain should be removed at the end of twenty-four hours if employed for hemorrhage, otherwise it may be left *in situ* for forty-eight or seventy-two hours. The operator should keep his hands scrupulously clean while inserting the drain, as well as in all the other steps of the operation. When general peritonitis exists, or when a large amount of infective fluid is present in the general peritoneal cavity, tubal drainage alone, or in conjunction with the gauze drainage, should be employed through the vagina.

VII. TOILET OF THE PERITONEUM.

With the patient in the horizontal position, all blood or serum is thoroughly removed by sponging out the pelvic cavity. The sponges covering the intestines are removed, and if necessary the pelvis is again cleaned by sponging. The abdominal cavity is not irrigated unless general peritonitis exists, unless a large amount of fluid has escaped among the intestines, or unless tubercular peritonitis is present. If the escaped fluid has been confined to the pelvis, it should be removed by sponges rather than by irrigation, because of the danger of carrying infection into the general peritoneal cavity. If irrigation is employed, a normal saline solution at the temperature of about 100° is probably the best to use, and the amount of fluid used should be sufficient to insure thorough cleansing. The fluid should be allowed to escape through the vaginal incision, as, after irrigation, drainage is a necessity. The omentum is then turned down over the intestines to prevent adhesions of the intestines to the abdominal incision. The omentum will possibly become adherent to the wound, but this is less objectionable than adhesions of the intestines to the wound. When the patient is exhausted from hemorrhage, and when the abdominal cavity is

not infected, as occasionally occurs in cases of rupture of ectopic pregnancy, it is a good practice to leave blood in the cavity or fill it with normal saline solution for absorption.

VIII. CLOSURE OF THE ABDOMINAL WOUND.

The accidents that most frequently follow closure of the abdominal wound are suppuration and hernia. The former now seldom occurs. The causes of suppuration are infection from contact with pus or septic tissue, from faulty technic in the closure of the wound, from the employment of drains, and from meddlesome after-treatment of the wound.

When the wound becomes infected by contact with pus or septic tissue, it should be thoroughly sponged with sterilized water, or with weak antiseptic solution, not strong enough to produce necrosis of the tissue. I have seen cases in which, I believe, suppuration resulted from the use of solutions of 1–1000 bichlorid of mercury. When the wound has been infected, buried sutures should be avoided on account of the danger of suppuration, the wound should be closed by sutures, which include all the layers of the abdominal wound, and the aponeurosis should be accurately coaptated by the additional use of quilled sutures. In an infected wound, sutures, such as silkworm-gut, or silver wire, which have no capillary action, should be used. If the abdominal wall is very thick, a drain may be used for a short time between the skin and aponeurosis, or preferably the superficial part of the wound may be left open and packed with gauze for twelve hours, and then carefully closed by tying sutures placed at the time of the operation. The aponeurosis, muscles, and peritoneum are closed, before the packing is inserted, by quilled sutures.

When suppuration occurs in a wound which has not been exposed to septic fluid or tissue, the sepsis must be due to faulty technic in closure.

The use of vaginal drainage in cases which would otherwise have required abdominal drainage, will eliminate one of the principal causes of suppuration in the abdominal wound. Infection may occur from unnecessary changing of the dressings or washing of the wound. When no abdominal drain is used, the gauze over the wound may be changed at the end of twenty-four hours if much soiled, but the wound should not otherwise be disturbed until the time for the removal of the sutures, unless symptoms indicate suppuration. Hernia may result from incomplete primary closure of the wound, from inaccurate coaptation of the aponeurosis, from suppuration in the wound, from the patient getting up too soon after the operation, or from non-use of an efficient abdominal supporter.

Incomplete primary closure of the wound always occurs when abdominal drainage is employed, and is especially noticeable when the Mikulicz drain is used. The abdominal drain is necessary only in exceptional cases, and, I believe, that the vagina offers a better route of drainage than the abdomen in nearly all cases, when considered either from a theoretical or a practical standpoint. When the abdominal drain is used it should be removed as soon as the discharge ceases, and the wound should be closed by tying sutures which were placed at the time of the operation, if the cavity drained is not a suppurating one, or does not contain necrotic tissue.

Incomplete coaptation of the aponeuroses probably always occurs to a greater or less extent when the "through and through" suture is used. When the wound has not been infected, the peritoneum should be closed with a fine continuous catgut suture, and the fascia, external to the recti muscles, should be accurately coaptated. "This is the most important step in the closure, as in this fascia lies the strength of the abdominal wall, and in this proper reunion lies the protection against hernia."[1]

When the wound is aseptic this should be accomplished by means of buried sutures, or by quilled sutures. Either catgut, kangaroo tendon, silkworm-gut, or silver wire, may be employed for buried sutures. It has not yet been determined which of these suture materials is preferable. I believe that the muscles should not be sutured, because to suture them causes an unnatural union which has no material strength and which must interfere with their action. Suture of the muscles also increases the pain in the wound. It causes atrophy from including parts of the muscles in the sutures and from union of muscle-fibers. The strong aponeuroses in an infected wound may be accurately coaptated by the quill suture. The skin and subcutaneous tissue are united by silkworm-gut sutures.

HYGIENIC PRINCIPLES IN THE PREVENTION OF EAR DISEASES.

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THE prevalence of acute and chronic nasopharyngeal affections under local climatic conditions of rapidly varying temperature and humidity, the frequency and danger of complicating

[1] "American Text-book of Gynecology," p. 79.

diseases of the organ of hearing, and the common neglect of hygienic measures, which are, for the greater part, simple and effective, offer sufficient reason for my submitting a few remarks on the subject. Under normal conditions of health, the organism may give shelter to many microbes, some of them pathogenic in nature. The latter are held in check by the vital antisepsis of the blood, the energy of the cell, and the power of resorption and metabolism of the organs. A further defense is afforded by the impermeability to germs of the normal epithelium, and by the antagonism existing between different species of microörganisms or their respective physiological products.

The commonest path of aural infection is from the nasopharynx through the Eustachian tube. Under normal conditions, the reflex action of swallowing causes the renewal of air in the tympanic cavity. If this automatic ventilation be disturbed, the consequences soon become unpleasantly apparent in a diminution of hearing. The physiological ventilation may become a source of danger, to which are added other and more violent reflex movements, such as coughing, sneezing, or vomiting. These reflexes overcome the muscular bar of the Eustachian tube and cause a sudden rise of air-pressure, which, though but momentary, is strong enough to force into the middle ear some material from the nasopharynx, as mucus and any microörganisms that may be present. As evidence of this, the frequency of middle-ear complications in epidemics of acute and subacute nasopharyngeal affections may be cited; but without any mechanical assistance, pathogenic organisms may traverse the tube and produce the tympanic complications not unfrequently observed in pneumonia, typhoid, scarlet fever, and other infectious diseases.

Less frequently, but no less certainly, the blood carries the agent of infection to the affected organ of hearing, or inflammatory products may be transported and become lodged in the terminal blood-vessels of the middle ear, as is not unfrequently the case in septic endocarditis and in pyemic conditions. Finally, we must not forget that a possible, although rare, mode of infection is offered by the presence normally, as observed by Zaufal, of pathogenic germs in the tympanic cavity, which may, under favorable circumstances, become virulently active. Besides these internal paths, the ear may become affected from without, as it most frequently is in disease of the external ear, and as complications of deeper parts. Injuries and inflammatory processes of the auricle and meatus may affect only the external ear and the adjacent structures, or may cause general infection; again, the inflammatory process often extends to the barrier between external and middle ear, with destruction of the drum membrane and rapid development of middle-ear inflammation. Even without perforation of the tympanic membrane, the pathogenic process may penetrate, by means of blood and lymph channels, to the deeper structures.

A knowledge of the methods of aural infection should guide us in our therapeutic and prophylactic measures. First and foremost is the importance of a proper hygiene of the nasopharynx, in health as well as in disease. The care of the mouth and pharynx is so habitual, and its importance so obvious, that it might seem superfluous to call attention to the necessity of keeping the teeth clean and the recesses of the mouth and throat free from all foreign matter. Unfortunately this is not the case. These manipulations are frequently neglected through ignorance, or they are performed at irregular intervals and in an incorrect and inefficient manner. A perfunctory brushing of the teeth on rising in the morning, and so-called gargling with a few drops of a mouth-wash are considered by many sufficient for the subsequent twenty-four hours, and the products of fermentation and decay, with the microörganisms, are left undisturbed for a whole day. Besides this, the conditions for decomposition are made more favorable by the conditions of the mouth and nasopharynx during sleep. The rational deduction is that the most careful cleansing of teeth should take place at night and again on rising, for in spite of all such measures, the buccal cavity will be found full of microörganisms in the morning, and perhaps a less careful toilet of the mouth should follow each meal. If these simple, hygienic measures were systematically and energetically applied, especially in childhood, we might hope for fewer complaints of foul breath, weak stomach, or decayed teeth; not only this, but the mucous membrane of the mouth and pharynx would become toned and strengthened against many infectious diseases. The most important prophylaxis in any epidemic is the care of the buccal cavity. Lavage of the throat is so carelessly done as to be in most cases practically useless. The fluid at most rinses the mouth, and does not reach the back of the pharynx, the tonsils, etc. Besides this, the method is a false one and its results a failure. Tough mucus cannot be removed in this way, even if the fluid did reach the deeper parts. A more rational pro-

cedure is the pharyngeal douche. A small amount, not a mouthful, of fresh, cold water should be used. The chin is now raised and the fluid allowed to run slowly back by its gravity, without any attempt at gargling. When the fluid reaches the lowest part of the pharynx, it causes a sudden, brisk, reflex contraction of the pharyngeal muscles, which, assisted by a forward inclination of the head, is amply sufficient to empty the contents of the mouth. This simple process may be repeated three or four times. By this method the lower portions of the throat are reached, and above all, the energetic spasmodic muscular action effectually dislodges all tough adherent mucus. Where there is a tendency to catarrh or sore throat, antiseptic solutions may with advantage be substituted for pure water. In addition to these local measures, we must consider the value of regular exercise, fresh air, cold baths, pulmonary hygiene, and breathing exercises.

However we may be disposed to neglect these procedures in health, the presence of local or general disease increases our responsibility and the necessity of rational hygienic measures. Nasal or pharyngeal catarrh, whether idiopathic or symptomatic of measles or scarlet fever, is frequently complicated by acute middle-ear affections. The disease brings with it the necessity of freeing the nasal cavity at frequent intervals, and the simple blowing of the nose, if violently or carelessly done, as is usually the case, may be a source of danger. It should be done as seldom as possible, as violent blowing only adds to the existing irritation and congestion. If this is not sufficient, the mucus must be made less consistent and removed by an alkaline douche. Both nostrils should never be closed at once, and no hairpin or similar utensil should be used. Therapeutic measures, which occasion a local rise of air-pressure, such as Politzerization or the use of the Eustachian catheter, are distinctly contra-indicated during the acute stage of such affections, especially if there is complaint of pain in the ear. The pain often indicates that there is already a congestion or inflammation in the tympanic cavity, and these procedures may drive the infecting matter into the recesses of the mastoid with the most serious results. We must be on our guard in the case of infants and little children, and consider at all times the possibility of ear complications when restless sleep, peevishness, and crying might suggest intestinal parasites, colic, teething, or what not. Frequently a discharge from the ear is our first intimation of the real state of affairs. In such cases, as in the case of apathetic or comatose patients, in typhoid, pneumonia, meningitis, and similar diseases, the ear-drum should be frequently inspected. In chronic affections of the nasopharynx, aural complications are so frequent as to be the rule. Chronic hypertrophic catarrh, with adenoid vegetation in the pharyngeal vault, is notable in this respect. Digital exploration is usually the simplest and most effectual diagnostic method, as posterior rhinoscopy may be impracticable with unruly or frightened children. The local action of adenoid hypertrophies may cause a direct affection of the Eustachian tube by occlusion of the pharyngeal ostium and consequent retraction of the drum by rarification of air in the tympanic cavity, or their presence may cause repeated attacks of catarrh, which sooner or later extend to the middle ear. The breathing is affected markedly, and hearing not infrequently diminished. Although forced to operate in most cases, much may be done in mild forms by insistent local treatment. Direct application to the nasal passages of weak nitrate of silver solutions or of iodin-glycerin, five to ten per cent., act well in almost all cases, when used at an early stage. The reaction may be severe, however, and for this reason it is advisable to apply the solution to one passage only in each sitting. The cotton pledget should be tightly wound on an angular carrier or forceps, and there should not be enough fluid to allow any dripping into the pharynx. Two or three days should elapse between each application. The nasal douche is decidedly inapplicable here, as in all cases of nasopharyngeal obstruction fluid easily enters the Eustachian tube, and may be aspirated into the middle ear. Massage of the nasal mucous membranes has been advocated, and good results claimed for it by several authors.

The use of a nasal douche should be governed by a few simple, but stringent rules, if it is to remain a beneficial measure and not become a source of danger. The bulb of the fountain syringe, if this is used, should be directed horizontally backward, not upward, the bag hung not more than one foot above the nasal passage. The head should be inclined forward slightly, with the mouth open, and the douche fluid slightly warmed. The nasal douche-cup or spoon is even better than a fountain syringe, or the fluid may simply be snuffed up from the palm of the hand.

The necessity of removing hypertrophic tonsils is self-evident as a prophylactic measure against ear disease. Similarly, congenital fissure of the hard and soft palate should be treated.

A consideration of all the possible causes of

aural affections brings us finally to the communication from without through the external auditory meatus. Inflammation of the auricle or meatus may be propagated directly by extension or by transportation in blood- or lymph-channels. The custom of piercing the lobule for wearing of ear-rings has been responsible for many cases of this nature. A greater menace lies in the careless or incorrect cleaning of the meatus. The majority of instruments used for this purpose—ear-spoons of metal, rubber, ivory, or bone—are of doubtful utility, or absolutely dangerous. Small sponges on holders are a source of infection, rather than of asepsis or cleansing. The ear-spoons, especially those of metal, easily cause abrasions of the epithelium and small erosions, which may become infected and result in furuncles or phlegmonous inflammation. The use of an ear-douche is but little better. The epithelium is soaked and macerated, and when dry becomes a source of irritation. Oil, glycerin, and other substances of a similar nature are inappropriate, on account of their tendency to become rancid. The most rational method of cleaning, which is perfectly thorough, may be accomplished by using a small tuft of absorbent cotton, not a large pledget, tightly wound about a blunt and smooth wooden tooth-pick, the end being left loose and fluffy. In case the cerumen is hard, the cotton may be lightly dipped in soap-water or moistened with a drop of ether. Another source of serious inflammation of the ear is the presence of foreign bodies in the external meatus, and more particularly unskilful or violent attempts at their removal. Instruments are never to be used in these cases, especially when the foreign body is hard or brittle, as they invariably fail to grasp and push the offending object still deeper into the ear. Our sovereign remedy here consists in syringing, and is effectual in nearly all cases, unless the foreign body is very voluminous or has entered the ear with great force. Under these conditions extraction under a general anesthetic may be our only expedient. Injuries of the ear not infrequently produce a rupture of the drum, whether caused by a blow or entrance of a foreign body, or by sudden change in atmospheric pressure. Here, too, the original lesion may be less dangerous than misguided therapeutic efforts. All washing, syringing, or instillations are contraindicated, at least directly after the injury. If the rupture can be seen, a loose tampon of absorbent cotton is all that is needed. In case there has been a free hemorrhage and our view is obstructed, the blood-clot may be gently wiped away with cotton on a holder. The patient should be cautioned to avoid all procedures which would cause a rise of air-pressure in the tympanic cavity, and especially to use no force in blowing the nose. The use of syringes is unequivocally condemned. Prompt healing will generally take place under the aseptic blood-clot, if this be left undisturbed. Even after a discharge has begun, much more can be accomplished by dry-cleansing by mopping with cotton or gauze, than by flooding the passage with fluid. The warning against syringing must be especially marked in case of serous discharge, where traumatic communication with the cranial cavity may reasonably be suspected.

Another source of danger, although of a less serious nature, is the common tendency to alleviate toothache or facial neuralgia by the use of hot oil, pledgets of cotton dipped in chloroform, oil of cloves, or other counter-irritants placed in the auditory canal.

In health we need also guard against the mechanical injury of the heavy surf at our seaside baths. Complaint of fulness and pressure in the ear after bathing, with diminution in hearing, is usually due to the swelling of cerumen by the action of the water. The symptoms promptly subside when the wax has been syringed out. Even in case of an old perforation of the drum, the patient need not be deprived of the hygienic benefit and pleasure of sea-bathing. We need only suggest plugging the meatus with cotton, which has been partly dipped in oil. If we neglect this, the entrance of sea-water may be followed by an acute empyema of the mastoid, or by the relapse of an old discharge.

NEPHRITIS IN CHILDREN.[1]

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Much more attention has been paid to the consideration of this disease in late years than heretofore, but even now there is very little to be found in the literature bearing upon the subject; this is particularly the case in primary nephritis occurring in children.

A nephritis may be primary or secondary, the former occurring infrequently. It, however, does occur, though denied by some authors. It may be secondary to any of the exanthemata, perhaps more frequently as a sequel to scarlet fever, rheu-

[1] Read before the Kentucky State Medical Society, Lebanon, Ky., June 10, 1896.

matism, erysipelas, acute and chronic intestinal diseases, vaccination, and pneumonia, the active causative agent in these diseases being either of primary bacterial origin or the result of the elimination of their toxins by the kidneys.

The lesions of a nephritis may be classed as a "descending nephritis,"[1] the essential change being glomerular and epithelial, due to chemical, bacterial, or toxic agents. The other form may be called the "ascending" variety, due to invasion from the urinary organs below. This affects first the papillæ, and, by means of the lymphatics, the parenchyma is invaded, the change being toward the cortex.

In the interstitial form there is an accumulation of cells between the tubules; the kidney is large, moist, whitish, and opaque. Clinically, this form is a result of the exanthemata, and may give rise to few symptoms. The glomerular form is much more frequently found as a result of scarlet fever than the former. The lesion is chiefly a proliferation of the capsular epithelium, with hyperplasia of the connective tissue. This form is well called capsular glomerulo-nephritis. Councilman states that the acquired or primary form of nephritis differs but little from that in the adult, though children are less prone to the circulatory disturbances found, especially in the chronic form, in the adult. In the text-book by Ashby and Wright, it is stated that the lesion in acute nephritis of childhood is of the croupous pneumonia type; the blood-vessels are engorged, choking of the tubules results, and there occurs an exudate of the liquor sanguinis and blood-corpuscles. The inflammatory changes, failing to be relieved, secondary changes occur, the most important being a glomerular and peri-glomerular nephritis.

A very valuable contribution to the etiology of this disease has recently been published by Dr. A. Jacobi,[2] in which many valuable suggestions are made as to the causation of this ordinarily unlooked-for disease of the newborn.

While chiefly secondary in early infant life, the nephritis may be primary, or at least occur without any cause being patent, and as the child approaches puberty, partake more of the form found in adult life. It is a much more common disease than is generally thought, and would be recognized oftener if more systematic examination of the urine of infants and children was made. Urine can always be obtained, as catheterization at this age can readily be done. Exposure to cold or wet being the cause of a sudden change in the circulation, may be an exciting cause of the primary form, Lassar having proved the causation of interstitial and parenchymatous inflammation by sudden refrigeration.

[1] Gaillard's *Medical Journal.*
[2] *New York Medical Journal*, January 18, 1896.

Under this head may be mentioned sea-bathing and swimming in fresh-water streams, the long exposure to the cold water being often an exciting cause little thought of. This, Danforth[1] states, is the case in adults, but not in childhood. Money[2] states that "spontaneous Bright's disease must be admitted." Rotch[3] says that, with the exception of its occurrence in scarlet fever, diphtheria, and measles, the disease is not frequent.

In no disease of childhood are the symptoms so varied as in nephritis. They may be so trivial as to pass unnoticed, especially when there is neglect in the examination of the urine. In well-marked cases the symptoms are pronounced and aggressive; the younger the patient, the more prominently the symptoms may point to the brain, or perhaps to the gastro-intestinal tract, or to the lungs, thus obscuring the diagnosis of the true nature of the disease.

The onset generally is sudden, preceded by a chill and a rise of temperature to 102 or 103°; the pulse is very rapid, as a rule, and the tension is high. Convulsions may precede active symptoms or perhaps supervene later. Edema occurs early, and its presence should at once excite suspicion; at first the dorsum of the feet, the ankles, and legs are affected, then the face, general anasarca occuring in some cases. Blindness may frequently be seen, due to a retinitis, either simple, hemorrhagic, or colloid. Fox[4] writes that in the hemorrhagic and colloid varieties of retinitis albumin is not found in the urine, this is especially so of the hemorrhagic variety, which is considered a forerunner of a non-albuminuric Bright's disease. The urine is scanty and high-colored, though there may be suppression, but catheterization will generally obtain enough urine for an examination.

Albumin in large quantities is usually found; microscopic examination shows granular, epithelial, and blood-casts, and blood-cells. Anemia is prominent; the skin, which is of a peculiar waxy look, is dry and hot. Cough is not an infrequent symptom, and may be distressing if pulmonary edema develops to any extent. Pain, heaviness, or a sense of discomfort in the back may be complained of by older children. Headache is also prominent. Restlessness and disturbed sleep, involuntary cries, convulsions, and even coma are not uncommon symptoms; strabismus and dilated pupils are found frequently.

Of all the diseases of childhood, nephritis demands

[1] "American Text-book of Diseases of Children."
[2] "Diseases of Children."
[3] *Pediatrics.*
[4] MEDICAL NEWS, May 23, 1896.

the most prompt, vigorous, intelligent, and careful treatment. Three essential rules in the treatment must be recognized, viz.: (*a*) Relieve the kidneys of the extra work of carrying the transuded serum from the tissues, as well as the retained products of tissue metamorphosis usually excreted by the kidney and retained because of their damaged state; (*b*) endeavor, by intelligent medication and diet, to prevent further damage to the diseased organs; (*c*) restore the kidney to its normal condition.

In meeting the first indication, resort must be had to the compensatory emunctories, the skin and the bowels, and at no age can we rely upon them more than during early life. Calomel is indispensable. It stimulates the liver to action, and by the increased flow of bile the contents of the bowel are rendered more fluid and the elements to be excreted more soluble in the blood, thus proving less irritating to the kidneys. The salines are of great service as hydragogues.

Hot-air baths must be relied upon for their diaphoretic action, as pilocarpin is very uncertain and not to be depended upon. The best method of applying heat is by using an apparatus which will supply hot air under the bedclothes. This can be used continuously, as it does not cause prostration. Liquid ammonia acetatis is an efficient remedy in the stage of convalescence, acting beneficially upon the kidneys and the skin. The high tension in the arteries can be combated more efficiently by blood-letting than otherwise, its beneficial effect being seen upon the pulse, the nervous system, and the kidneys by lowering the blood-pressure.

A very valuable agent is water, given, perhaps, plain after filtration or boiling, as young children take carbonated waters with reluctance. Given *ad libitum* and at regular intervals, if the patient does not call for it, it acts as a diuretic, without causing any irritation. If refused by the mouth, it acts well as enema if large doses are given.

The following history is reported as being illustrative of the subject under discussion:

D. M., aged eleven years, an inmate of the Masonic Widows' and Orphans' Home, resident at the Home nine months; had always been a healthy child. On October 12, 1895, she reported to the nurse because "she was getting fat in the face." There had not been any outbreak of contagious diseases at the Home, and the patient's skin was perfectly free from any evidences of disease. She had been well up to the time of admission to the infirmary, and the edema was noticed now for the first time. She was put to bed, but was not reported as sick until the following day. At this time there was marked edema of the face and of the feet and ankles. A specimen of her urine was ordered saved, and she was put on milk diet pending the examination.

14th. At 8 A.M. she had a general convulsion, followed in the next three hours by five more. In the interval between the convulsions there was nystagmus and twitchings of the muscles about the eyes. There was one more convulsion during the day, but the only nervous manifestations during the night were the twitchings as above described. She was very restless when awake, and complained of great pain in the head. There was complete blindness at this time, and Dr. W. B. Pusey, Visiting Oculist to the Home, was called in to make an examination. He reported that the examination was very unsatisfactory, owing to the nystagmus and restlessness; no satisfactory view of the fundus was obtained. When the child had been dismissed, however, he found the fundus sound and the vision normal.

The pupils were well dilated and equal. The edema was quite marked, especially about the face, eyes, and lower extremities. Skin was hot and dry; pulse 160, full and bounding; the maximum temperature was 103°. Thirteen ounces of urine were passed in the twenty-four hours. It was high-colored, examination showing three-fourths per cent. albumin by volume, blood-casts and blood-corpuscles.

As soon as possible after the convulsion she was given ten drams of a saturated solution of Rochelle salts at intervals, and one-quarter of a grain of muriate of pilocarpin in equally divided doses, four hours apart, but no effect, either upon the skin or the salivary glands, was produced. Eight grains of calomel were given during the twenty-four hours, with a large movement resulting. She vomited twice after administering the calomel. She was put in the hot-air bath at this time, but no effect was noticed until the following day.

15th. Passed a restless night, twitching about the eye being noticed frequently. Pulse 160, and of high tension. At this time phlebotomy was done, about one ounce of blood being removed from the right median basilic vein. The effect of this withdrawal was almost immediate; the pulse fell to 104, there was less tension, and the patient seemed brighter, having taken no notice of the phlebotomy. Eight grains of calomel were given during the rest of the day, twenty-two ounces of urine were passed, and she had three movements, as a result of several large rectal injections given through the day.

16th. Rested well; complains of sore throat; coughs a great deal; examination of the chest proved negative. Vision returning slightly; can distinguish large objects and begins to recognize faces. Examination of the urine showed about one-third albumin by volume, a few granular casts, blood-corpuscles, and kidney epithelium. Given

one ounce of the saturated solution of Rochelle salts at intervals and one teaspoonful of liquor ammonia acetatis every three hours. Passed twelve ounces of urine and vomited three times.

17th. Rested well; edema rapidly subsiding; still coughs. Passed twenty-three ounces of urine and had two watery stools. Specific gravity of urine 1015, with some albumin, but much less than at the last report.

18th. Slight sweat in the morning. Passed forty-one ounces of urine.

19th. Cried nearly all night with pain in throat; nothing pathological visible. Passed thirty-seven ounces of urine; had three watery stools. Put on tincture ferri chloridi, six minims every three hours.

20th. A necrotic area of mucous membrane found on the right soft palate, extending down to the tonsil, about half an inch square. This is exquisitely painful and has a foul odor. Persulphate of iron applied every two hours. Passed twenty-four ounces of urine.

21st. Throat much better. Passed twenty-seven ounces of urine.

The following is a list of the amount of urine passed in the next few days: 22d, thirty-two ounces, specific gravity 1014, some albumin and blood-corpuscles; 23d, thirty ounces; 24th, forty ounces; 25th, forty-two ounces, albumin, granular casts, and kidney epithelium; 26th, forty-four ounces; 27th, fifty-two ounces; November 1st, urine clear and free from albumin.

Under tonic treatment with muriated tincture of iron and nourishing diet, the little patient improved rapidly and was dismissed from the infirmary in ten days, well. It is interesting to note that during the succeeding month she was one of ninety to have German measles, a mild attack, the urine remaining normal throughout.

The following points are of interest in connection with the above history: Pilocarpin muriate, a perfectly fresh preparation, to the total dose of one-quarter of a grain, did not have the slightest effect upon the child's skin or salivary glands, and did cause some depression of the circulation. Hot air had little effect in inducing elimination by the skin until it had been kept up for at least twenty-four hours. Calomel proved an efficient aid in elimination by the bowel, with the aid of Rochelle salts, which were borne by the stomach better than the calomel. Blood-letting was of the greatest benefit, not only upon the heart, reducing it from 160 to 104, and lessening the blood-pressure; also ridding the blood of a quantity of toxins at once. This is a remedy that should not be forgotten.

The case illustrates the remarkable recuperative power of the child, not only in surviving such overwhelming poisoning of the system, but the kidneys regaining their former integrity.

THE DISINFECTION OF BOOKS BY VAPOR OF FORMALIN.

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A GREAT deal has been written recently concerning the use of formalin as a preservative, antiseptic, and disinfectant. Investigators unite in acknowledging that it possesses these properties, while they differ in opinion as to the degree of efficiency, especially in the case of disinfection.

Dr. John S. Billings, Director of the Laboratory of Hygiene, University of Pennsylvania, proposed to the writer the testing of the efficiency of formalin vapor as a disinfectant for books, and also for rubber and surgical instruments. The writer wishes to here express his thanks to Dr. Billings, and also to Dr. A. C. Abbott, First Assistant, Laboratory of Hygiene, University of Pennsylvania, for their kind advice and timely suggestions during the course of this investigation.

We would naturally expect that books, particularly those of public libraries, passing through many hands under various conditions, would need disinfection; for at times they are handled and read by persons afflicted with infectious diseases, and may therefore serve as channels through which the disease may be disseminated. Nor is this now a matter of conjecture for Du Cazal and Catrin[1] have shown that books may be the vehicles of contagion. The results of their experiments were positive for the diphtheria bacillus, streptococcus, and pneumococcus, although negative for tubercle bacillus and bacillus of typhoid. There are numbers of cases of scarlet fever in which the source of infection is reasonably believed to be a book or letter.

In some places, as in parts of England, the only remedy for infected books has been destruction by fire. This waste of books, often valuable, may be averted if disinfection can be otherwise thoroughly accomplished. Messrs. Du Cazal and Catrin propose as a means of disinfection, the sterilization of the books by the autoclave, with the exclusion of bound volumes and board covers, which are injured by this treatment. Miquel,[2] in his efforts to obviate this difficulty, used a strip of cloth 15 to 20 cm. wide, attached at the ends to rollers, around one of which the cloth was wound and dipped into a solution of formalin, whose specific gravity had been raised from 1.075

[1] *Annales de l'Institut Pasteur*, Decembre, 1895, p. 865. "De la contagion par le livre."

[2] *Annales de micrographie*, Novembre, 1894, p. 588. "Contribution nouvelle à l'étude de la désinfection par les vapeurs d'aldéhyde formique."

to 1.2 by the addition of calcium chlorid crystals. This cloth was spread directly beneath a frame or rack holding the books, with the edge of the leaves downward. Cloth, rack, and books were then covered by a large jar, and at the end of twenty-four and forty-eight hours were found to be sterile. Van Ermengem and Sugg[1] found that in a closed vessel, sterilization was effected in twenty-four hours by sprinkling the leaves of an infected book. They found that books were not disinfected in a closed chamber after twenty-four hours if a weight of two kilograms rested on the books; but they obtained positive results in twenty-four hours if a vacuum was produced, and then air, saturated with formalin, admitted. In their experiments with elevated temperatures, these investigators found books were disinfected at a temperature of 60° C. in twenty-four hours with formalin. As a result of their researches, Van Ermengem and Sugg consider books as difficult of disinfection. Lehmann[2] agrees with them in this conclusion.

It was our intention to test as simple a method as possible, and yet one that was efficient. It would not be a practical matter to retain for several hours a temperature as high as 60° C. (140 F.), especially for large spaces. The following experiments were accordingly conducted at room temperatures varying from 19° to 31° C. (66.2° to 87.8° F.). The vapor was obtained by simple evaporation, and not by the burning of methyl alcohol, nor was addition made to the formalin of calcium chlorid or any other substance. The solution used was received from the firm of Bender & Hobein, Munich and Zurich, and had the specific gravity 1.084.

The action of formalin upon the anthrax spore has been determined by others. As neither *B. anthracis* nor its spore are apt to occur in books, this organism was not employed in our experiments. Virulent cultures have been used of *B. typhi abdominalis*, *B. diphtheriæ*, and *staphylococcus pyogenes aureus*, all of which are likely to occur in books.

The following was the method pursued: To avoid injury to the books by the cutting of the leaves, a sheet of paper was given a single fold, and between the two leaves thus formed, was placed a piece of paper 2 cm. square. After sterilization by dry heat of the sheets with their enclosed squares, they were placed in a book at desired pages, and the squares smeared with a twenty-four-hour-old bouillon culture of the organism in question. Drying of the culture was accomplished in from one to two hours, by placing the book in the incubator, 37° C. (98.6° F.). At this point, control cultures were made from the squares. The book was then placed under a bell-jar of known capacity. No weight rested upon the books except in few cases, when other light books were on top. Sometimes the books were stood on end, again they rested on the side, always closed. A measured amount of formalin was placed in a shallow glass dish under the bell-jar, and allowed to evaporate—the surface of evaporation varying from 26 to 70 sq. cm. After removal from the exposure to formalin, the books were allowed to stand for various periods of time protected from dust. At several dates after the exposure, portions of the square were placed in bouillon at 37° C. (98.6 F.), and observed daily for some time.

The questions presented were:

1. Can books under simple conditions be disinfected by the vapor of formalin?

2. What is the maximum amount of air per c.c. of formalin that may be used and yet the books be sterilized in a limited time—as twenty-four hours?

3. Will a shorter exposure than twenty-four hours suffice?

4. Will an increase in the length of time of exposure counterbalance a decrease in the amount of formalin employed?

SERIES I.—Length of exposure, twenty-four hours. Books of from 150 to 870 pages, mostly octavo books of 200 to 400 pages. Dates of experiments extending from March 11 to June 1, 1896. Controls all positive; g—growth; o—no growth.

c.c. of air to 1 c.c. of formalin.	Designation of experiment.	B. typhi abd.		B. diph.		Staph. p. aur.	
		No. of tests.	results	No. of tests.	results	No. of tests.	results
137	a	4	o	4	o	4	o
150	b	2	o	2	o	2	o
300	c	1	o	1	o	1	o
300	d	.....	.....	1	o	1	o[1]
375	e	.....	.....	.....	.....	2	o
375	f	2	g	2	g	2	g
400	g	.....	.....	1	o	.....	.....
				2	o[1]		
500	h	.....	.....	.....	.....	3	g

[1] In these three tests a growth was obtained a few hours after removal from the vapor, but succeeding trials from the same square after two days or more were negative. This raised the question as to whether the vapor of formalin had condensed between the leaves and thus given a prolonged exposure after removal. Accordingly, parallel experiments were made, differing only in that the books were opened and exposed to air at the inoculated places as soon as removed from the bell-jar. The same result as previously observed made it clear that it was a case of weakened vitality in the organisms.

[1] *Archives de pharmacodynamie*, 1894, vol. i., fasc. 2-3. "Recherches sur la valeur de la formaline à titre de désinfectant."

[2] *Münchener medicinische Wochenschrift*, 1893, No. 32. "Vorläufige Mittheilung über die Desinfection von Kleidern, Lederwaren, Bürsten, and Büchern, mit Formaldehyd."

SERIES II.—Greater proportions of air, and mostly longer exposures. Octavo books of 150 to 400 pages. Controls all positive.

c.c. of air to 1 c.c. of formalin.	Designation of experiment.	Time of exposure.	Typhoid		Diph.		Aureus.	
			tests	results	tests	results	tests	results
600	i	25 hrs	.....	.....	.....	.....	2	g
800	j	26 "	.....	.....	2	g	.....	.....
800	k	19½ "	.....	.....	1	g	2	g
1000	l	41 "	.....	.....	2	g	2	g
900	m	5 "	2	g	2	g	.....	.....
400	n	21 "	3	o	2	o	2 1	o g
530	o	5½ "	.....	.....	.....	.....	3	o

SERIES III.—Exposures one hour. Octavo books of 176 to 600 pages. Controls all positive.

c.c. of air to 1 c.c. of formalin.	Designation of experiment.	Typhoid.		Diph.		Aureus.	
		tests	results	tests	results	tests	results
400	p	.....	.....	.....	.....	1 2	g o
350	q	2	g	.....	.....	.....	.....
350	r	.....	.....	.....	.....	2	g
300	s	.....	.....	.....	.....	1 1	g o
300	t	.....	.....	.....	.....	2	o
250	u	.....	.....	1	o	1	o

SERIES IV.—Exposures fifteen minutes. Octavo books of 130 to 732 pages. Controls all positive.

c.c. of air to 1c.c. of formalin.	Designation of experiment.	Typhoid.		Diph.		Aureus	
		tests	results	tests	results	tests	results
400	v	2	g	.....	.....	.....	.....
350	w	.....	.....	.....	.....	2	g
300	x	.....	.....	.....	.....	1	o
300	y	2	o	.....	.....	.....	.....
300	z	2	o	.....	.....	.....	.....
250	aa	.....	.....	1	o	1	o
250	bb	.....	.....	2	o	2	o

These results demonstrate that 1 c.c. of formalin to 300 c.c. of air will thoroughly disinfect books in fifteen minutes, while with an exposure of one hour no greater amount of air can be permitted without vitiating the result. If the exposure be extended to twenty-four hours, disinfection failed to be obtained with 375 c.c. of air to 1 c.c. of formalin. In a few cases, experiments *g*, *n*, *o*, *p*, positive results were obtained where a larger amount of air was used, yet sterilization is not sure with more than 300 c.c. of air to 1 c.c. of formalin.

Experiments were also conducted to determine the detrimental action if any on instrument and rubber. No injury was perceptible to instruments nor to any form of rubber after an exposure of twenty-four hours in air saturated with vapor of formalin. These articles were not, however, subjected to repeated exposures for a large number of times.

The white deposit spoken of by some authors as an objectable product, appeared only to a slight degree on the glass plate where the dishes containing the formalin stood, and it did not show in the least on the books, rubber, instruments, nor on the interior of the bell-jars.

CONCLUSIONS.

1. Books can be disinfected in a closed space, simply by vapor of commercial formalin by using 1 c.c. of formalin to 300 c.c. or less of air.

2. The vapor of formalin is rapid in its disinfectant action. The effect produced in the first fifteen minutes is practically equivalent to that observed after twenty-four hours.

3. An increase in the amount of air to each c.c. of formalin is not counterbalanced by an increase in the length of time of exposure.

4. In case the disinfection has been incomplete, the vitality of the organisms has been so weakened that they survive only if transferred in a few hours to media, suitable for their development.

5. The use of vapor of formalin is not detrimental as far as observed in any manner to the books, nor is it objectionable to the operator beyond a temporary irritation of the nose and eyes, somewhat similar to that produced by ammonia.

CLINICAL MEMORANDA.

A REPORT OF TWO UNUSUAL SURGICAL CASES.[1]

BY J. C. ROCKAFELLOW, M.D.,
OF PHILADELPHIA;
RESIDENT PHYSICIAN OF THE GERMAN HOSPITAL.

CASE I.—Dislocation of the radius forward and ulna backward at the elbow-joint.

H. N., aged fifty-three, male, was working on a scaffold which gave way, causing him to fall about sixteen feet. He struck upon the palm of the left hand, the arm being slightly flexed. He was brought immediately to the hospital, where he was seen about twenty minutes after the accident occurred. The patient had intense pain in the elbow-joint, which was somewhat swollen. The arm was slightly flexed and pronated. The olecranon could be plainly felt posterior to the humerus, the coronoid process occupying the olecranon fossa. The head of the radius was displaced into a position anterior to the humerus at the edge of the coronoid fossa. Any attempt at flexion, extension, or supination of the forearm caused intense pain. No fracture of any bone could be determined.

Reduction was attempted by flexing the forearm upon the arm, using the knee as a fulcrum and at the same time making extension. The bones apparently slipped

[1] I am indebted to Dr. G. G. Ross for the opportunity of reporting these cases, which occurred during his service at the German Hospital Dispensary.

into place, but on examination, the forearm was found to be pronated, and could not be supinated without causing great pain. The ulna occupied the normal position, but the head of the radius still rested on the anterior surface of the humerus. By slightly flexing the forearm and making pressure downward over the head of the radius, the latter slipped into place, making flexion, extension, supination, and pronation quite easy, and accompanied by little pain. The rest of the treatment was that carried out in cases of simple dislocation at the elbow-joint. The patient recovered with a perfectly movable joint.

The infrequency of the above dislocation makes it one of interest. The first cases of posterior dislocation of the ulna and anterior dislocation of the radius at the elbow-joint were reported by Michaux and M. Bulley in 1841, each of these gentlemen reporting one case. The next case reported was by M. Meyer in 1880. These are the only uncomplicated cases recorded (Hamilton). A similar case was reported by Dr. Erskine Mason, but he could not satisfy himself that a fracture of the external condyle of the humerus did not also exist.

Of the four preceding cases, two were not diagnosed until two weeks after the injury was received, and attempts at reduction were not successful, as the head of the radius continued to occupy its normal position.

CASE II.—Comminuted fracture of the scapula involving the spine.

J. B., twenty-seven years of age, male, while riding a bicycle over Belgian blocks, caught the front wheel between two sewer plates and was thrown about ten feet. He turned completely over, striking the right scapula on one of the stones. The patient was seen soon after the accident occurred.

On examination, no marked deformity was noted, the pain and swelling were slight, but movements of the affected side were limited and painful. The patient could place the hand of the affected side on the opposite clavicle, but could not place it upon his head, a symptom mentioned by Gross as being present in a similar case. Any attempt to place the arm at right angles with the body caused marked pain. The slight build of the patient favored satisfactory examination.

On passing the fingers along the spine of the scapula, the fracture could be felt extending perpendicularly across it, about two and a half inches from the inner border. By grasping the spine on either side of the fracture, each half could be moved separately, and crepitus was distinct. On examining the outer edge of the scapula, a third fragment was found slightly separated from the outer upper fragment, the line of fracture extending transversely and communicating with the perpendicular fracture. The displacement of the fragment was not marked, but, by grasping it, distinct motion and crepitus were felt.

The dressing employed in this fracture was a firm pad in the posterior part of the axilla, a compress over the scapula, the arm in the Velpeau position, all of which were retained by strips of adhesive plaster. Over this was placed a Velpeau bandage. The displacement after the fracture had united was slight, the inner fragment being displaced upward about one-fifth of an inch. The displacement, together with the callus, could be plainly felt at the seat of fracture. The smaller fragment of the outer half showed no displacement.

The above fracture is quite rare, Hamilton having treated but six cases of fracture of the body of the scapula. Various hospital statistics show that fracture of the body of the scapula occurs once in about every four hundred fractures treated, and as most fractures of the body are due to gunshot injuries (Agnew, Ashhurst, Hamilton, and others), the percentage of cases otherwise injured is very small.

A CASE OF SUPPURATIVE CHOLECYSTITIS, WITH RUPTURE OF THE GALL-BLADDER AND GENERAL PERITONITIS, COMPLICATING TYPHOID FEVER.[1]

BY HENRY B. ANDERSON, M.D.,
OF TORONTO, CAN.;
PROFESSOR OF PATHOLOGY, TRINITY MEDICAL COLLEGE; PATHOLOGIST TO TORONTO GENERAL HOSPITAL.

JOHN S., aged sixty-seven, builder. Admitted to Toronto General Hospital, 8 P.M., Monday, September 16, 1895. Patient had been well and working at his trade in Detroit until July 6, 1895, when he was taken quite suddenly ill—chills, fever, vomiting, diarrhea, with general abdominal pains. The chills recurred daily for some time. He was treated for malaria and recovered from his illness, returning to work August 1st, although still feeling rather miserable. He remained at work only a few days, when he became worse, although still continuing to go about. He had chills recurring, as a rule, twice daily, headache, fever, diarrhea, vomiting, and a good deal of abdominal pain on the right side, in the hypochondriac region. He was again treated for malaria, taking quinin until cinchonism was produced, with no beneficial result. He stated that he had been examined before the Mississippi Valley Medical Association, then meeting in Detroit, and malaria was diagnosed. No blood examination was made. Several other men working at the same place as the patient were taken with an illness somewhat similar, and two of them died. As he was gradually getting worse, he left Detroit for his home in eastern Ontario, but on reaching Toronto he was feeling so ill that he entered the Toronto General Hospital, under the care of Dr. Davison, by whose kind permission I report the case. As Dr. Davison was out of town at the time, I took charge of the case and examined the patient's blood for malarial parasites a short time after a chill, but no plasmodia were found. Another examination was made next day, before a chill, and the following condition found: Red blood-corpuscles, six million (Thoma-Zeiss). They were regular in shape. No malarial parasites were found. The hemoglobin was slightly reduced (Fleischel's hemometer and Gower's hemoglobinometer). There was, however, a marked leucocytosis apparent without an actual count. The increase was in the polynuclears. This examination excluded the presence of malaria and pointed rather to some acute inflammatory process. The patient's condition at this time was as follows: He was strong and

[1] Read before the Toronto Medical Society, November, 1895.

well-developed physically and mentally. Temperature was ranging from normal to 102°; pulse 86 to 100, soft and low tension; tongue red, slightly tremulous, with a tendency to dryness; respiratory murmur natural; heart-sounds normal. General aspect of patient was indicative of great suffering. Mind was clear. Abdomen on the right side was full, prominent, and tense; on the left side it was comparatively soft and relaxed. Palpation and percussion produced the most intense pain on the right side, all over the hepatic area in front and behind, and extended some distance below. In no case was this tenderness and pain particularly localized in reference to the liver. On account of the great suffering produced, it was impossible to define the area of hepatic dulness. There was no pain or tenderness in the right iliac region. The left side of the abdomen was quite soft and relaxed, pressure producing no pain. No splenic enlargement could be discovered. There was no eruption on the abdomen or elsewhere. Examination of the urine negative. Diazo-reaction was not tried. No history of gall-stones or previous jaundice could be gotten. Probable abscess of the liver, secondary to some intestinal lesion, was diagnosed. The intense pain and the fulness on the right side continued, and a *localized* swelling made its appearance beneath the ribs opposite the ninth costal cartilage, and extended below it. On the fifth day after entering the hospital the intense pain and swelling simultaneously disappeared. The patient experienced great relief, and felt comparatively comfortable. This was soon followed, however, by *general* abdominal pain and tenderness, though not very intense. Temperature rose to 102⅘°, and on following day to 103°, reaching normal each morning. The pulse became more rapid—112 to 128—and weaker. The tongue was dryer, skin moist and clammy, and patient had involuntary evacuations of urine and feces. He grew gradually worse, became comatose, and died September 26th, the eleventh day after entering the hospital.

The necropsy was made two hours, *post mortem:* There was a general acute peritonitis, with a considerable amount of brownish-yellow fluid in the peritoneal cavity, apparently bile-stained. Microscopic examination of the fluid showed many polymorphonuclear leucocytes, large flat mononuclear (endothelial) cells, yellowish (bile) pigment, and some short, slightly curved rods with rounded ends.

The small intestines were bound together with recent inflammatory adhesions. The solitary glands were swollen, and there was ulceration of a few Peyer's patches at the lower end of the ileum. The floors of the ulcers were clean and smooth. Liver, weight 1815 grams, soft and passively congested. The cystic duct was obstructed by a number of small, faceted gall-stones. The mucosa of the gall-bladder presented a number of small, ulcerated patches, the tissue between the ulcers being reddened from congestion. On the right side of the gall-bladder, about 4 cm. from the anterior margin of the liver, one of these ulcers had perforated into the general peritoneal cavity. Externally the seat of perforation was adherent to the liver by recent adhesions, the whole gall-bladder was greatly dilated and its walls thin. Spleen weighed 170 grams. Other cavities and organs presented nothing worthy of special mention.

Cultures on blood-serum and in bouillon were made from the peritoneal fluid and from the interior of the gall-bladder. In both cases pure cultures were obtained of a rod-shaped bacterium, short, with rounded ends, and apparently constricted in the center. In places they were united to form longer threads. In morphology they corresponded to the bacillus coli communis or to the bacillus typhosus. The bouillon culture remained alkaline, and the reaction for indol could not be obtained. Unfortunately, other means of differentiating these organisms were not tried. Both the tests applied, however, went to show that the organism was the typhoid bacillus.

To sum up the case: It seems probable that the illness, from which he suffered during July, was typhoid fever, from which he had not fully recovered when he left his bed, August 1st, and this accounts for his feeling worse on going about. The presence of the calculi in the cystic duct and gall-bladder made this a point of lessened resistance. The autopsy records of the Johns Hopkins Hospital[1] indicate that the bile is particularly rich in typhoid bacilli during an attack of the disease. The ability of the typhoid organism to set up local suppurative inflammation in different organs and tissues of the body has also been abundantly demonstrated by competent observers. An inflammatory process was thus set up in the gall-bladder with swelling of the mucous membrane, and this, together with the calculi, produced complete occlusion of the cystic duct with accumulation of the purulent material mixed with bile in the cavity. Ulceration of the mucous membrane occurred, and the tension becoming very great, the sac ruptured at the seat of one of the ulcers, setting up a general peritonitis. The symptoms in the second attack were thus coincident with, and due entirely to, the condition in the gall-bladder and its consequences.

The delayed healing of the ulcers found *post-mortem* could be accounted for by the complication described. The case, apart from its rarity, presents a few points of special interest. It is another instance added to the many cases already recorded of the power possessed by the typhoid bacillus to set up suppurative processes in parts distant from what is usually regarded as the chief seat of the disease—the intestine—the organism being carried by the blood-stream. In a series of cases recently published by Flexner[2] he has shown that this mode of transmission of the typhoid bacillus does occur, giving rise, in rare cases, to an actual septicemia, or producing lesions in distant parts of the body.

From a clinical standpoint, these facts show us the necessity of continually bearing in mind the power possessed, not only by the typhoid bacillus, but, as has also been shown, by most other pathogenic organisms (streptococci, staphylococci, diplococcus, pneumoniæ, gonococcus, bacillus anthracis, bacillus tuberculosis, etc.) of setting up, not only the local lesion with which they are usually associated, but, under certain conditions, often not well understood, by gaining entrance to the blood-stream.

[1] Flexner, *Journal of Pathology and Bacteriology*, April 1, 1895.
[2] "Johns Hopkins Reports," vol. v., p. 343.

and thus producing *general* infection of the system or local trouble in distant parts. In this manner we may get anomalous forms of disease, differing not only in their clinical pictures, but also in their prognosis and treatment, from the usual type.

This case also shows that the absence of polymorpholeucocytosis can only be of use in diagnosing uncomplicated cases of typhoid, and that in certain instances, as in the present, it may actually mislead, rather than assist in making the diagnosis.

MEDICAL PROGRESS.

Division and Immediate Suture of the Left Vagus Nerve.—(MAKINS, *Brit. Med. Jour.*, May 16, 1896.) In removing a secondary epithelioma of the neck, the left vagus nerve was divided just above the center of its cervical portion. It was immediately sutured. No results were noticeable other than the paralysis of the muscles supplied by the recurrent laryngeal branch. The quality of the voice improved rapidly however, and two months later it was nearly normal. Laryngoscopic examination showed the left vocal cord to be fixed near the middle line, and in phonation the right cord moved up to it. Apparently, after suture of the nerve, the adductor fibers partially recovered, but not the abductor ones.

The operator admitted that the functional cavity of the vagus in this case might have been lowered by long continued pressure by the tumors. In his opinion, however, the case proved that one vagus can be divided without danger, and that after division, at least a partial restoration of function is possible.

Complete Removal of a Pancreatic Cyst.—EVE in the *Medical and Surgical Reporter*, May 9, 1896, describes a case of pancreatic cyst occurring in a negro boy, and which was apparently traumatic in orgin. While asleep, the patient was struck in the abdomen by a falling box weighing fifty pounds. He was confined to bed for four days with postration and great pain. Six weeks later, he noticed an epigastric enlargement which progressed. Four months from the time of injury, the size of the tumor so alarmed him that he sought surgical relief. Eve diagnosed the tumor as pancreatic cyst, on account of its smooth elasticity and the light brown fluid drawn from it.

At operation the cyst contained about a gallon of fluid, and was attached to the omentum, stomach, transverse colon and meso-colon. It was removed and the patient recovered, although the cyst wall was so firmly attached to the meso-colon that the latter had to be torn away from the gut for about eight inches, in order to remove the cyst. The complete removal of a pancreatic cyst has rarely been attempted.

THERAPEUTIC NOTES.

The Treatment of Diabetes Mellitus with Lime.—In addition to observations on the significance of calcium as related to diabetes mellitus previously recorded (see MEDICAL NEWS, June 22, 1895, p. 708) GRUBE (*Therapeutische Monatshefte*, 1896, No. 5, p. 258) reports a series of fourteen cases, in the treatment of which he employed various forms of calcium, especially a mixture of calcium carbonate, ninety-five parts, and calcium phosphate, five parts. Three of the cases were of the severe type of the disease in young people, and in these, while the excretion of urine remained unaffected, the subjective condition improved with increase in weight. In the remaining eleven, which were of mild type in elderly persons, while no good effect was observed, no harm resulted.

Infectious Diseases Treated by Artificial Serum.—In an article in *La Presse Médicale*, June 3, 1896, BOSC discusses the merits of intravenous injections of artificial blood serum, in infectious diseases and toxic conditions. The fluid employed contained sodium chlorid 7 grams, and sodium sulphate 8 grams to 1000 grams of distilled water. It was sterilized by boiling, and injected into a vein at a temperature of 38° to 39° C. Before injection about 8 ounces of blood were drawn, and then 2 liters of the serum were injected slowly into a vein, during 15 or 20 minutes.

In cholera patients, the effects were striking. Thus a patient who was pale, cyanotic, rigid, voiceless, with a scarcely perceptible pulse, was transformed before the injection was finished. The cyanosis and clamminess disappeared, and the pulse became of good volume at 105. "It was as if a corpse was coming back to life."

The injections were followed almost invariably by a chill and high fever up to 40° C. (104° F.), often accompanied by vomiting and diarrhea. These symptoms subsided in a few hours, and on the following day there was a decided improvement in the general condition which concluded in a speedy recovery.

This treatment calls to mind the ancient humeral theories of disease, and the efforts of the physicians of that time to get rid of the humors in the blood by blood-letting and purgatives. These means have only a limited action. The treatment by blood-letting and intravenous injection of artificial serum, followed as it is by exudation into the alimentary canal causing vomiting and purging, merits the name which has been given it of lavage of the organism.

Bosc has had no personal experience with this treatment in typhoid fever and septicemia, but from what he knows of the results others have obtained, he looks for great benefit from its use in these diseases.

The Galvanic Current in Lead-Colic.—According to LAGRAVE and REGNIER (*Le Prog. Méd.*, May 23, 1896), not enough importance is attributed to the use of the galvanic current in lead-colic. When the positive pole was applied by means of a broad zinc electrode to the lower dorsal vertebræ and the negative pole in a similar way to the epigastrium, a continuous current of five to ten milliamperes was found to relieve the pain entirely in fifteen to twenty minutes. With a current of forty milliamperes, obstinate constipation from lead-poisoning was overcome, and a free passage of feces obtained in ten minutes in a case which had resisted the action of drugs.

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SATURDAY, AUGUST 8, 1896.

THE LEGITIMATE TREATMENT OF ALCOHOLICS IN BELLEVUE HOSPITAL.

IN connection with the unfortunate notoriety that has attended the efforts of the Charities Commissioners to establish a nostrum cure for alcoholism, it may be of no little interest to know what was already being done in that Hospital, not only to relieve alcoholics temporarily, but to develop and establish a cure. It has long been known that about one-half of the patients admitted to the insane pavilion of Bellevue were alcoholics. Before a satisfactory diagnosis could be made as to the mental condition, it was, therefore, necessary to sober up these patients. For the past few years a systematic effort has been made by Dr. Austin Flint, who was on duty in the insane pavilion, to formulate some treatment that should be more far-reaching than the long-established use of bromids and other sedatives. Strychnin has become the drug *par excellence* for these cases, and its effect is so striking and so decided in cases of alcoholism that it has come to be regarded as a specific antidote to alcohol-poisoning. Its immediate effects, when given hypodermically, are most satisfactory and surprising. In the form and dose in which it is now administered, it will clear up nearly every case of alcoholism in from twenty-four to forty-eight hours. The formula used by Dr. Flint is as follows:

Nit. Strych.	grs. viii
Acid. Salicylic	grs. iv
Alcohol	℥ i
Water	℥ iii

Make up antiseptically.
℥ xv = $\frac{1}{16}$ of a grain of Strych.
Sig. ℥ 15 hypo. two or three times daily.

In the alcoholic wards proper Dr. Charles L. Dana has instituted similar investigations and has reached conclusions very similar to those of Dr. Flint. In addition to the use of strychnin, however, Dr. Dana endeavors to throw about the secondary treatment of these cases the strong mental suggestion of a "cure." His custom is to select, for the cure treatment, from the convalescents of an acute attack of alcoholism only those persons who have reasonable intelligence, and show real evidence of sincerity in their desire to reform. He does not hesitate to say that the suggestive and moral influences thrown about the "cure" are borrowed from the idea of the Keeley and other alcohol cures of the country. A more extended account of Dr. Dana's method will be found in another column of the NEWS.

MELANOTIC TUMORS.

IN the last number of the *Deutsche Zeitschrift für Chirurgie*, vol. xliii, p. 498, EBERMAN reviews the literature of melanotic tumors. It is now nearly a century since Laennec named and described these growths, and we are almost as much in ignorance of their nature now as then. Formerly many cases of melanotic carcinoma were spoken of, but now almost all of the pigmented tumors receive the name sarcoma. The writer does not infer from this that there has been any change in the character of the tumors, but simply that the microscope has revealed to us that in most cases their structure resembles that of the sarcomata. But that is largely a question of nomenclature. As the melanotic tumors are nearly all of the alveolar type of sarcoma—a tumor which stands in the border-line between sarcoma and carcinoma—having the alveolar arrangement of the latter, while its cellular elements seem to place

it among the sarcomata. Thus, among the thirty cases of which Eberman had personal knowledge, only four were distinct carcinomata—all of them being of the rectum. Two of the sarcomata were also rectal, while two had their origin in the mucous membrane of the jaw, two sprang from lymph glands, and the remaining twenty were all situated in the skin.

Owing doubtless to their marked characteristics, melanotic tumors have often been used for transplantation experiments upon animals. As long ago as 1843, Klencke succeeded in transplanting such a tumor from one horse to another. Others have had similar successes in inoculating one animal with a tumor from another.

A more interesting experiment was performed by Lanz a few years ago. The infusion of bits of melanotic tumors of the skin, brain, liver, and spleen of a man, was injected into the spleen of a guinea-pig. The health of the animal was not at once affected, but he died six weeks later with an accumulation of pigment in almost every part of his body, so that Lanz felt sure there was a new formation of pigment.

Interesting as this experiment is, it is not sufficient to prove that an animal may be inoculated with a malignant tumor from man, and thus far all attempts in this direction have failed. Equally futile have been all efforts to cultivate artificially the germs and parasites which from time to time have been seen (?) by various observers in malignant tumors. So that the etiological value of such germs and parasites is still purely a matter of speculation.

What an eloquent testimony is this to the cost of human knowledge, that the labor of hundreds of painstaking investigators for nearly a century has reached only these few facts concerning the nature and cause of melanotic tumors.

A NEW SPECIALIST IN A NEW SPECIALTY.

The following letter, which for pure naïvete, colossal egotism, and brutal assassination of the "United States language," has never been outdone, is the latest contribution to the "Healing Art Made Easy." The reading of the first paragraph amused us, the second disgusted us, and at the end we were prepared to say with Shelley, "Adieu to egotism; I am sick to death of the name of self."

Dear Sir: Having settled as a physician in Detroit, and it being the custom, in making such an announcement as is appended hereto, to accompany it with a sketch of one's medical study and experience, permit me to say that I took lectures at Jena, Strassburg, Heidelberg, Göttingen, and Halle, and that at the end of the fifth year I received my diploma in medicine and surgery, and graduated from the latter university, where I had been a voluntary assistant of the late Richard von Volkmann. After ten years successful practice in Germany, I came to this country, for which I had conceived a great admiration during a trip to the World's Fair in 1893. Permit me also to announce that I confine my practice strictly to dermatology and surgery, and to consultations in these matters, thus avoiding that somewhat suspicious (in this country) name of specialist (*sic*).

I pay special attention to orthopedy, a science which, in the last few years, has made just as wonderful progress as surgery, as a whole, after the important discovery of Dr. Josef Lister. This progress was due chiefly to Friederich Hessing, who gave to orthopedy a series of apparatus so perfect in their functions that Dr. Albert Hoffa, in the latest addition of his well-known work on orthopedic surgery, recommends the Hessing apparatus for every occasion.

I use the Hessing apparatus exclusively for all my patients. The results obtained by this method of treatment are so favorable, that I can boldly affirm that up to the present time there has been no other kind of treatment that could successfully compete with this one. The early walking around of a patient with a broken leg, so favorably commented on of late, is an easy matter with a Hessing's apparatus.

The manufacture of Hessing's apparatus is a difficult process, and the proper adjustment is attended with even more difficulty. Therefore, it is necessary in nearly every case, to have the patient for at least three weeks at my office-residence.

It was a long time before I found the proper material and the right kind of skilful mechanics; two items exceedingly necessary to produce a good Hessing apparatus. This, together with the wish to speak the United States language fluently enough to converse without difficulty, is the reason I have not come earlier before the medical profession.

Yours very respectfully,

————, M.D.

We are accustomed to a certain amount of breeziness and brusquerie from some of our Western fraternity, and we were not entirely unprepared for this blast, for it is but a few weeks since we were favored with a similar but a more

carefully worded circular-letter from a certain New York specialist; but there is in this simple letter of the former voluntary assistant of the illustrious Volkmann an unreserved expression of sentiment and thoughts, and likewise hopes, without regard to conventional rules, which really aghast us.

A man who confines his practice to dermatology and surgery, and who uses a Hessing apparatus exclusively for all his patients is a genius; but a genius who has a form of neurosis which the unlettered call insanity. Think of the brilliant results that must follow the treatment of a case of acne rosacea in full bloom with a Hessing apparatus!

We congratulate Mr. F. Hessing who has thus had his name associated with Lister, the immortal, and we commiserate Dr. Albert Hoffa, who recommends the apparatus for every occasion.

We appreciate the compulsion, and the modesty, which has made our correspondent hide his light in the western city so long; "to speak the United States language fluently enough to converse without difficulty," is a praisworthy ambition, and it is well worth patient waiting, for its realization. It is most unfortunate, however, that our Teuton confrère who murders it so unfeelingly and barbarously on attempting to write it, did not wait a decade or two longer before he essayed to speak it.

We are not at all convinced that the erstwhile modest Herr doctor, who has conceived such a strange liking for this country of ours, has yet really found the proper material and the right kind of skilful mechanics for the manufacture of this dermatological and surgical necessity which he considers so essential for us to have. In fact, we believe that he has not. They exist, *par excellence*, in that country where he practised with such signal success for ten years, and we hope that he will not delay his return to them. The profession can spare him, and really it is more than likely that surgeons will be content to cure fractures in the old-fashioned way, with complete success, without further instruction.

If we can in any way assist the profession of Detroit in ridding themselves of this specialist our concurrence is at their call.

ECHOES AND NEWS.

The French Surgical Society.—The tenth session of the French Surgical Association will meet at the Paris Faculty of Medicine, on Monday, October 19, 1896, under the presidency of M. Terrier. The two following subjects will be discussed: "Surgical Therapeutics of Club-foot," and "Treatment of Genital Prolapsus."

The American Electro-Therapeutic Association.—The sixth annual meeting of this Society will be held on Tuesday and Wednesday, September 29 and 30, and Thursday, October 1, 1896, in Allston Hall, the Studio Building, on Clarendon street, Boston, Mass. Dr. W. H. White, 222 Marlborough street, Boston, Mass., is the vice-chairman of the committee of arrangements.

Self-Respect More Valuable than Position.—Dr. James G. Kiernan of Chicago, informs us that after an editorial service of nearly ten years upon the *Medical Standard*, he has now severed his connection with that journal, because of the insistence, "by the publishers, upon intruding nostrum advertisements and the conversion of the journal into a 'write-up' organ for nostrums and allied performances."

Swedish Hospital Projected in Brooklyn.—The fact that a Norwegian feels insulted if mistaken for a Swede, is well known. The Swedes of Brooklyn evidently prefer segregation from their old-country neighbors as well; for they deem the Norwegian Hospital in South Brooklyn inappropriate, and have raised nearly $2000 as the nucleus of a building fund for a Swedish hospital. They hope to raise the remaining amount necessary to their purpose by means of a fair. The certificate of incorporation has been filed in the county clerk's office.

American Association of Obstetricians and Gynecologists.—The ninth annual meeting of this Society will be held at the Hotel Jefferson, Richmond, Va., Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1896. The proprietors of the "Jefferson" offer special rates to the Fellows of the Association, their families and guests, as well as to any physicians who come to attend the meeting. It is confidently expected that the railways will offer transportation at a uniform rate of a fare and a third on the certificate plan to all in attendance.

The Hardin County Protective Association.—In Hardin County, Ky., there has been formed a Life Insurance Examiners' Association. It includes *every physician in the county*, and many others whose "rides" take them into the county. They will meet and discuss the scientific and financial questions that affect the insurance of human lives. They have also resolved that they will insist upon a fee of five dollars for each examination made for the companies. If this plan works well, it will be because the hearts of Hardin County beat as one, and there are no backsliders.

A Sacrifice to the Cause of Science.—Dr. William H. Park, who is superintendent in charge of the Bacteriological Laboratory of the New York City Board of Health,

and who, by his editorial association with the NEWS, has kept its readers posted in regard to the status of bacteriological investigation, is suffering with typhoid fever. Dr. Park had been experimenting for the Health Department with a view of discovering a typhoid antitoxin similar to the diphtheria antitoxin. It is supposed that some of the typhoid germs got on Dr. Park's hands, and were transferred to his food, or drink, and thus swallowed. His condition is considered favorable for recovery.

For the Prevention of Blindness in South Carolina.—The following are the essential features of the law of 1896, in South Carolina, relating to the care of infants having diseases of the eye: "Be it enacted by the General Assembly of the State of South Carolina, That should one or both eyes of an infant become reddened or inflamed at any time after birth, it shall be the duty of the midwife or nurse or person having charge of said infant to report the condition of the eyes at once to the local Board of Health of the city or town in which the parents of the infant reside. Any failure to comply with the provisions of this Act shall be punishable by a fine not to exceed twenty-five dollars, or imprisonment not to exceed one month, or both."

The Red Badge of Healing.—Two hundred years before the Children's Crusade, merchants of Amalfi had obtained permission from the Caliph of Egypt to build a hospital in Jerusalem for poor sick pilgrims. The Hospital of St. John became well known, and rich Crusaders gave money to endow it. Others joined its medical or nursing staff, and, without laying down their crusading badge, fought now a new fight against the ravages of disease and death. . . . The Genevan Convention, in 1863, which provided for the protection of the sick and wounded in time of war, commanded the sympathy and adhesion of every civilized nation. It adopted as its badge, a red cross on white ground—the Swiss colors reversed. And so it comes to pass that it is under the old crusading sign that present-day deeds of mercy are done on the field of battle.

Obituary.—Solon F. Bliss, M.D., of Brooklyn, died July 24th, in his forty-seventh year, from diphtheria, after an illness of ten days. He was an American by birth, and had practised in Brooklyn during nearly the whole period of his professional life. He was a graduate of the Albany Medical College in the year 1874.—Edward B. Stevens, M.D., died July 11th, at his home in Lebanon, O., aged seventy-two years, He was Professor of Materia Medica and Therapeutics in the Miami Medical College from 1865 to 1873, and in the University of Syracuse from 1872 to 1877. For seventeen years he edited the Cincinnati *Lancet and Observer*, now the *Lancet Clinic*, and afterward the *Obstetric Gazette*.—The death of Sir Robert Grove, the inventor of the Grove cell voltaic battery, occurred in London, England, August 2d. He was a lawyer by profession. but being temporarily prevented by ill health from following legal pursuits, he turned his attention to the study of electricity. In addition to the battery, which bears his name, he also invented a gas battery.

Nearly Two Thousand Cases of Smallpox.—In reading the paragraph given below, from the *London Lancet*, let it be remembered that the estimated population of the afflicted city is only 41,000. "At Gloucester the fresh cases of smallpox arising in the week ended July 2d were 18 in number, exceeding the total of the previous week by 5. These raised the grand aggregate of cases in the present epidemic to 1983. Summonses last week occupied the bench at Gloucester with reference to the obstruction of officers of the sanitary authority in their efforts to secure the removal of cases of smallpox to hospital. In one instance the father of three children down with the disease refused to permit of their being taken to the hospital, and he was fined £1 and costs, or fourteen days' imprisonment. The defendant, by his counsel, desired to bring forward evidence to show that the hospital was not properly administered, that beds were occupied by more than one case, and so on. The bench ruled against the defendant in this respect, but it is alleged that this is not the first complaint that has been made as to the way in which, in the past, the smallpox hospital at Gloucester has been administered."

The Fever Hospital of Hamburg.—Hamburg affords everywhere evidence that it has profited by the fearful scourge of cholera from which it suffered in the autumn of 1892. The city authorities have established such methodical supervision of water, milk, butcher meat, and almost every article of food, as may be declared sufficient to preclude the possibility of a similar epidemic in future. In their supervision of infectious disease they now follow a plan almost military in its thoroughness, precision, and systematic rule. In different quarters of the town there are disinfection establishments, where one finds not only the means to disinfect articles brought from dwellings in which infectious disease has appeared, but a staff of officials furnished with all the necessary apparatus for the disinfection of the dwellings themselves, and for the instant removal of patients to hospitals where they may be promptly submitted to treatment. In the Eppendorf Hospital, which is the largest modern hospital in Europe, affording ample accommodation for nearly 2000 patients, one finds almost every appliance that recent science can suggest for the treatmeut of disease. In this hospital there were at one period no fewer than 3000 cholera patients during the cholera epidemic in 1892. Usually, however, only a few of the pavilions of the hospital are devoted to infectious disease. The pavilions are, for the most part, in two floors.—*Sanitary Journal.*

The Date of the Meeting of the Mississippi Valley Medical Association has been changed to September 15, 16, 17, and 18, in order to permit the members and their families to take the opportunity accorded by this change to make a pleasant tour through the Yellowstone Park, so justly celebrated as the Wonderland of America. Prominent resident members of the Association in St. Paul and Minneapolis are formulating plans for the Special Yellowstone Park Excursion Trip, to leave on the evening of September 18th, arriving in Mammoth Hot Springs in the Yellowstone Park about noon on the following Sunday, and devoting the following five days to the wonders of this remarkable region, returning to St. Paul Sunday, September 27th. The cost of the trip, including all ex-

penses west of St. Paul, will be announced in due season, but we are authorized to say that the figure will be a very favorable one, and we simply wish, at this time, to make the preliminary announcement of this most enjoyable feature of the St. Paul meeting, so as to give members the opportunity of making their plans in advance to join the party. It is desirable that there be a party of one hundred or more, in order to obtain the benefit of the special train service in both directions. It is urged that all members who desire to join the party should send their names to Dr. C. A. Wheaton. chairman of the Committee of Arrangements, St. Paul, at as early a date as possible.

Electrolized Salt Water as an Antiseptic.—Dr. Julien Proger, chief surgeon of the Asylum for Deaf and Dumb Children at Asnières, near Paris, and member of the Sanitary Council of the Department of the Seine, for four months has been using electrolized salt water as an antiseptic, and has now laid the results of his experiments before the Académie de Médicine. This fluid is used in England as a disinfectant in the Royal Victoria Hospital at Netley, and as a deodorizer for the main sewers of Ipswich. The inventor, from the first, has claimed for it powerful and harmless antiseptic properties, and several years ago supplied Dr. Carlier of Rouen, and Dr. Chantemesse of Paris, with bottles of it for surgical and medical purposes. The opinion they expressed was very favorable, and quantities of it have been supplied to persons suffering from wounds, sore throat, sore eyes, etc. In his communication to the Académie de Médicine he gives a technical report of his clinical experiments, and then sums them up by saying: "The electrolized saline water is neither caustic nor irritating; it may be applied to the mucous membrane as to the skin; it instantly removes all bad odors; stops all putrescent fermentation; kills microbes more effectually and rapidly than any other antiseptic; cleanses and heals fetid wounds and sores, and hastens healing; it is an ideal antiseptic." Dr. Proger further declares that he has used it with success in a case of incipient diphtheria.

Nomenclature of Diseases.—The new "Nomenclature of Diseases," being the third edition of the Royal College of Physicians, has at length appeared in a book of five hundred pages. In 1892 the Committee of Revision was appointed, and their work now appears after four years as a substantial and useful manual. Of the origination of the book the editor of the *Lancet* gives a brief explanation: "The idea that led, nearly forty years ago, to the projection of a nomenclature of disease which should possess a national, or rather an international, character, originated in the Army Medical Department, through whose representations, supported by other of the Hospitals Committee of the Epidemiological Society, the Royal College of Physicians of London was induced, in the year 1857, to undertake the preparation of a Nomenclature of Diseases, on the understanding that it should be subject to periodical revision. The work was commenced forthwith, but in 1858 the meetings of the committee appointed for the work were suspended for five years in consequence of the passing of the Medical Act, and the alterations thereby necessitated in the constitution of the College. The meetings were, however, resumed in 1863, but it was not till 1869 that the first edition of the Nomenclature was published. Among changes made in the present edition in the classification of diseases we notice the restriction of the term 'anthrax' to the disease previously named splenic fever or wool-sorter's disease, and the relegation of the morbid condition carbuncle, which had been previously confounded with anthrax, to a separate category. The disease formerly termed epidemic rose rash is now termed 'Rubella,' in deference to the opinion of physicians specially skilled in the diseases of children, the old name "rötheln" being still retained as a synonym. Diabetes insipidus (polyuria) and tetanus are now, for the first time, admitted as new names in the division of general diseases. The section on nervous diseases has been entirely recast, and so likewise have those relating to diseases of the digestive, respiratory, and integumentary systems. The section on surgical operations has been rearranged, as has also the section on malformations. The enumeration of tumors and morbid growths has undergone fundamental alteration in order to bring this group into harmony with modern classification. The class 'cysts' has been retained in deference to usage and to the needs of registration, although it necessarily overlaps some other divisions of the nomenclature."

SELECTION.

THE STRYCHNIA CURE OF ALCOHOLISM AND OPIUM HABIT.[1]

BY C. L. DANA, M.D.,
OF NEW YORK.

A CERTAIN proportion of the submerged four thousand who pass yearly through the alcohol wards of Bellevue Hospital distinctly and seriously wish to have a treatment given them which will take away their tendency to periodical sprees. Consequently the use of strychnia and the solanaceæ, with certain adjuvant tonics and moral influences is employed in these cases. The drugs selected for use in this "cure," are those which the experience of ten years in the care of these cases has shown me to be most useful.

Selected patients, after having passed through an attack of acute alcoholism, and are convalescent, are allowed to remain two days and take the "cure." The wards of the Hospital are not large enough to permit of a longer stay. Only persons who have reasonable intelligence and who show real evidence of sincerity are chosen.

The following solutions are used:

I. ℞
Strychnia nitrat., . . . gr. 1-15
Atropiæ sulph., . . . gr. 1-300
Aquæ distilled, . . . m x
M. Sig. inject t. i. d.
1st day injection.

II. ℞
Strychnia nitrat., . . . gr. 1-20
Atropiæ sulph., . . . gr. 1-200
Aquæ, ... ʒ x
M. Sig. inject t. i. d.
2d day injection.

[1] From the *Post-Graduate*, July 1896.

III. ℞

Tinct. cinchon. comp.,	m xv
" capsici.,	m ½ to m i.
" solan. carolin.,	m ii.
Vini ferri amari.,	ad ʒ i.

M. Sig. Mistur. stomachic., ʒ i. t. i. d. Shake.

Order: One-half to one glass of milk (hot or peptonized), alternating with hot beef tea or broth, every two hours.

IV. 1st and 2d nights, if needed.

℞

Potas. bromid.,	gr. xxxii.
Chloral hydrat.,	gr. xvi.
Tinct. valerian,	ʒ i.
Aquæ,	ad ʒ iv.

M. Sig. ʒ i dose, repeated once, if needed. Shake. Mistur. sedativ.

The patients are given the injections I and II and "stomachic" III, three times a day, with abundant nourishment, washing out the stomach, if necessary, to help any catarrhal disturbance.

The patient, during the treatment, is made to understand distinctly that he is taking a "cure" with all that that implies, but no mystery is made of its character or of the means used.

After the second day he is perforce discharged. In most cases his craving is gone, but this generally occurs after a debauch. In fact, the natural history of many cases of periodical alcoholism is that craving ceases after the spree for from one to nine months.

On being discharged, the patient is given

V. ℞

Tinct. columbo,	ʒ i
" capsici.,	m xv.
" nucis vomic.,	ʒ i to ʒ i ss.
Apomorphinæ	gr. 1-3
Tinct. cinchon. co.,	ad ʒ iv.

M. Sig. ʒ i t. i. d. in water after meals.

The patient is told to take this and report weekly. After a month he reports monthly, and is kept supplied with the bottle, which he is told to take the minute any craving develops, and report at once.

By the application of this method to alcoholics, we are able to send out many patients with hope in the future, confidence in themselves, and a staff upon which to lean in this weakness. The same treatment, when applied to patients with the morphin habit, has to be given much longer, and sometimes must be modified, by adding bromids, or gradually reducing the morphin. Dr. Brown, the house surgeon, was able in one case to stop immediately the use of morphin taken to the extent of thirty grains a day. The patient did not suffer in the least.

SOCIETY PROCEEDINGS.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Tenth Annual Meeting, held at Atlantic City, N. J., June 2 and 3, 1896.

FIRST DAY, TUESDAY, JUNE 2d.

THE first order of the session was the address by the President, CLAUDIUS H. MASTIN, M.D., of Mobile, Ala.

A. T. CABOT, M.D., of Boston, read a paper reporting

FIVE CASES OF RUPTURE OF THE URETHRA TREATED BY EXTERNAL URETHROTOMY AND SUTURE.

In all five of his cases the immediate result of the operation was good. In three of them the opportunity was given for examination some years after any dilating instrument had been used. In two of these no stricture was found, and instruments even larger than those that were used immediately after the operation slipped past the point of rupture with perfect ease. In one case, while no interference with urination was noticed, a narrowing of the urethra was found; this narrow point, however, was not of a hard, cicatricial nature, but was so soft and yielding that without the least exercise of force it was rapidly dilated to a good size. The conclusions of the author were as follows: (1) In every case of ruptured urethra, immediate perineal section, with suture of the urethra should be practised. (2) By this procedure not only do we greatly lessen the danger of urine infiltration and abscess, but we also, in a large proportion of cases, may hope to prevent the formation of close intractable strictures. (3) In the early operation, the search for the posterior end of the urethra is much easier than in the later. The hemorrhage from the branch of the artery of the bulb serves as a guide to that end of the canal.

J. WILLIAM WHITE, M.D., of Philadelphia, said that he fully concurred with Dr. Cabot in the general principles laid down in his paper. There was another class of cases, however, in which it was sometimes difficult to decide just what procedure to follow, namely, cases of slight injury, in which there were practically no symptoms excepting a little hemorrhage and perhaps some perineal swelling. In a slight, partial rupture of this character, was the outlook from suturing any better than we could expect from the introduction and retention of a large instrument, and careful urinary antisepsis?

JOHN P. BRYSON, M.D., of St. Louis, said he was entirely in accord with the statement made by Dr. Cabot that an early operation is demanded in a case of traumatic rupture of the urethra. If it could be demonstrated that the lesion in the urethra was transverse or oblique, the indications were to open and suture it. In these cases we often had to deal with a semilunar laceration.

F. R. STURGIS, M.D., of New York, said that when the rupture was slight, the introduction of an instrument to keep the canal patent was often all that was necessary. When, on the contrary, the rupture was extensive, an operation was called for.

ABNER POST, M.D., of Boston, reported a case of ruptured urethra that had recently come under his observation. In that case, the speaker said, the patient would have been better off had an immediate operation been performed and the urethra sutured.

GEORGE CHISMORE, M.D., of San Francisco, coincided with the views of the writer of the paper in every respect, yet he believed that we were a little premature in concluding that a rupture of the urethra, not sutured and left to the healing powers of nature alone, would invariably lead to a particularly intractable form of stricture. He reported a case in which he had an opportunity to examine

the urethra of a patient who had sustained a traumatic rupture of the canal ten years before, and who had had no instrument passed for many years. He found a stricture at the seat of the injury which yielded very readily, admitting, within two weeks, a No. 10 F.

Dr. Bryson said that in the linear form of stricture, which is usually a simple band rising quite sharply from the urethral wall, dilatation will often produce good results and sometimes bring about a radical cure. A longitudinal tear may heal even with the use of a catheter, but in traumatic cases the rupture is usually transverse or oblique.

Dr. Cabot, in closing the discussion, said he agreed with the statement made by Dr. White that it was often difficult to decide whether a case required immediate operation or whether milder measures would suffice. The feeling he had was that if a case which does require early operation is not operated on, it usually does badly. An abscess results together with a cicatricial stricture, which might have been avoided by immediate operation. The actual danger pertaining to such an operation is trivial; it is a much more serious matter if we leave a blood-clot or a tear in the mucous membrane. In case of doubt, therefore, it is well to operate. There are undoubtedly cases where the injury is so slight that we can treat them as indicated by Dr. White, but where there is inability to pass a catheter or a large swelling in the perineum, an operation is necessary. In the case related by Dr. Chismore, the good result was no doubt partly due to the fact that a perineal opening was made, thus preventing urinary infiltration.

JOHN P. BRYSON, M.D., of St. Louis, read the

REPORT OF TWO CASES OF URETHROTOMY WITH TRANSPLANTATION FOR URETHRAL STRICTURES.

The history of the first case was as follows: J. F. was first seen by Dr. Bryson in December, 1891. He had an annular stricture of the urethra, the anterior face of which was situated five and one-half inches from the meatus. The stricture had its origin in a gonorrhea contracted eight years before. It was of the inflammatory variety, resilient, and had repeatedly resisted efforts at dilatation carried beyond No. 14 F. Being convinced that further palliative treatment was useless, the speaker said he opened the canal on December 22, 1891, and disclosed a stricture about one-quarter of an inch in breadth situated at the posterior part of the bulbous sinus, and lined by roughened and inflamed mucous membrane, There was no well-defined margin between the healthy and diseased tissue, the one gradually shading into the other. The membranous portion of the urethra was not much dilated, but was in a state of mild, chronic, purulent inflammation. The urgent request of the patient, who demanded a radical cure of the trouble, which had considerably undermined his health, led Dr. Bryson to disregard the extra risk caused by the posterior urethritis and at once to dissect out the whole of the diseased tissue, going well beyond it on either side, in order to be sure of the mucous membrane. When the dissection was complete, it was seen that the divided ends of the urethra were separated fully three-quarters of an inch, and an attempt to bring them together failed. The base of the wound being composed of spongy and vascular tissue, immediate transplantation of a graft taken from the lining membrane of the prepuce was ventured. This was stitched to the cut ends of the urethra by interrupted catgut sutures. The urethra and bladder were thoroughly irrigated with warm carbolic solution, a catheter passing the full length of the urethra was tied in and the perineal wound propped open with iodoform gauze, loosely placed. On December 24th, the gauze was removed; two days later, the catheter was removed, and on inspection it was found that the graft had taken. The catheter was left out. The patient passed his urine chiefly through the perineal incision. He left the hospital on January 6, 1892, at which time the perineal wound had almost closed. He came under observation again in March, 1894, complaining of a free urethral discharge; after this was cured, a No. 30 F. sound would enter the bladder easily, almost painlessly, and caused no bleeding. On December 26, 1894, the patient reported that he had had no further trouble, and was able to urinate with a full stream. He was again heard from in the fall of 1895, when he wrote that he had remained perfectly well since the operation, urinating with a full stream and at normal intervals, having had no treatment in the interim.

In the second case reported by Dr. Bryson, several attempts at transplantation were made before a successful graft was introduced.

EUGENE FULLER, M.D., of New York, read a paper upon

GOOD RESULTS FOLLOWING URETHRAL RESECTION.

(See current volume of THE MEDICAL NEWS, p. 93.)

DR. WHITE said that in one case of injury to the urethra coming under his observation, a considerable portion of the urethral wall was missing. To fill this gap he used a graft taken from the mucous membrane on the inside of the cheek. He was unable to say whether the graft took successfully or not; the case did well, however, and he was disposed to think that the transplantation was a factor in bringing about the good result.

DR. BRYSON expressed the opinion that in the cases reported by Dr. Fuller—particularly in the last one—the time that had elapsed since the operation was too short to enable him to pronounce them permanently cured. In a case of that character, where an extensive resection was done, it would no doubt take a considerable period of time for the urinary canal to fill up.

DR. CHISMORE regarded the result of grafts within the urethra as very uncertain.

FRANCIS S. WATSON, M.D., of Boston, read a paper entitled

MOVABLE KIDNEY; ITS FREQUENCY; ITS CASUAL RELATION TO CERTAIN DEFINITE SYMPTOMS; THE MEASURE OF RELIEF AFFORDED BY NEPHRORRHAPHY; A NEW METHOD OF APPLYING SUTURES IN THE OPERATION.

He said the pathologist rarely finds movable kidney because, in the first place, he rarely looks for it, and in the second place, as Newman and Kendal Franks have pointed

out, with the body in the dorsal position, the kidney naturally returns to its normal position and is retained there by the solidification of the perinephritic fat after death.

As regards the frequency of this condition, the following figures will prove of interest: Glenard, in 1893, reported that he had seen personally between 1885 and 1893, 537 cases of movable kidney. Lindner, in 1888, asserted that one woman in every five was subject to movable kidney. Edebohls, in 1893, said that he had found 90 cases in a series of 500 women examined.

Upon three symptoms of movable kidney all authorities agree. These are, in their order of frequency: (1) Pain in the loin or abdomen; (2) disturbances of digestion of the character of atonic dyspepsia; (3) neurasthenic or hysterical symptoms. There is one other, which is not often mentioned, but which, when present, is the most characteristic of all, namely, the sickening pain, accompanied by a sense of nausea and faintness, which occurs when the kidney is grasped between the hands or the fingers and thumb. It is just as characteristic, so far as one may judge from the description of patients, as is the peculiar sensation which men feel when the testicle is squeezed. Dr. Watson's method of suturing the kidney in the loin, is as follows: After exposing the kidney by the usual lumbar incision, the fatty capsule covering the posterior surface of the organ is excised and its cut edges are stitched a little distance from the margins of the wound. Two stout chromicized catgut sutures are then passed through two-thirds of the entire length of the kidney, parallel to each other, and through the parenchyma of the organ, at a distance of half an inch from each other. They enter the kidney a little above its lower end and emerge a little below its upper end. Either end of the suture is then passed through the edge of the muscular layer of the wound. Two other sutures are then passed in a horizontal direction through the substance of the kidney, one above and the other below the points of entrance and of issue of the two first sutures, and their ends are also passed through the muscular borders of the lumbar wound. The fibrous capsule is then split throughout nearly the entire extent of the posterior surface of the organ, and reflected, to a very slight extent, toward either side, thus denuding the posterior border of the kidney to the breadth of the little finger. Instead of one end being tied to the opposite end of the same suture, the end of one long suture is tied to the end of the other above, and the same is done below at the points where they pass parallel to each other through the muscular layer. The same is done with the cross-sutures. In this way the danger of the stitches tearing out is avoided. The kidney is drawn firmly into its place and maintained there by the sutures, being suspended as in a hammock.

DR. CHISMORE said he had one undoubted case of floating kidney under his observation at present where the condition was discovered by accident; as it had given rise to no marked symptoms, nothing had been done regarding it.

DR. CABOT said he had operated on quite a number of cases of movable kidney which had given rise to symptoms in different degrees. In some cases the condition gives rise to nervous symptoms, in others to digestive disturbances and in a third class it causes kidney colic. In the digestive, and still more in the latter class of cases, the most favorable results were obtained by operative interference. In his later operations he has adopted the method originated by Guyon, which seems to work very well.

DR. WHITE said he was quite well satisfied that movable kidney existed far more frequently than many suppose; he was equally well satisfied that too many movable kidneys were being found and operated on to-day. He had never seen a death result from the operation and he had never failed to get at least temporary relief. The diagnosis usually rests between movable kidney and tumor of the gall-bladder, or some other intra-abdominal condition. One of the symptoms to aid us in making a diagnosis of movable kidney is the variation in the quantity of urine passed, due to torsion of the ureter; we may get a history of diminution in the amount passed, followed by a sudden increase and a relief of the symptoms. The symptom mentioned in most of the text-books, namely, percussion over the loin, he regarded of very little importance. The speaker expressed the opinion that most of the symptoms accompanying movable kidney were directly due to the condition itself, and were not of a hysterical character. The traction on the duodenum would account for the gastric phenomena; the obstruction to the outflow of urine would account for the renal symptoms, and the traction on the nerves would account for the nervous manifestations,

DR. BRYSON said that an important reason for operating in these cases was the danger of suppurative lesions. In four cases where he opened the kidney for the purpose of draining a suppurating pelvis, he found the organ much lower down than it should have been. He agreed perfectly with Dr. Watson regarding the characteristic pain produced by compressing the kidney. As regards the proper location of the organ, he had obtained the best results by fixing it in a position where the ureter was neither stretched, nor sufficiently relaxed to become kinked.

ABNER POST, M.D., of Boston, read a paper entitled

POST-CONCEPTIONAL SYPHILIS.

He stated that regarding the possibility of intrauterine infection of syphilis two opinions prevail, one party affirming and another denying its existence, while a third party may be said to consist of those who admit its possibility up to a certain period of pregnancy, and deny its possibility after a date, which is set at various periods by different writers. Those who deny the possibility of such transmission rest their belief upon the well-known relationship between mother and fetus, which does not permit the direct interchange of blood-corpuscles, and upon the probable fact that the contagium of syphilis is carried only by the blood-corpuscles and not by the serum, so that, theoretically, the transmission of the disease through the placenta is impossible. The problem of infection of the fetus during intrauterine life simplifies itself into the question whether pathogenic microbes may be transferred from the mother to the fetus or not. So far as analogy is concerned, different conclusions have been reached by different investigators. The latest opinion on this

subject is to the effect that the microbes of pneumonia and typhoid fever and also the bacterium coli commune pass the placenta and attack the fetus in utero. We are justified in saying that the microbes of certain diseases pass the placenta to infect the fetus, and hence we may infer that intrauterine infection is not impossible in syphilis. To establish the fact that the mother has acquired syphilis during pregnancy and transmitted it to her fetus, Taylor, in the recent addition of his work, lays down a series of propositions which must be proven before the fact of such transmission can be accepted: (1) It must be shown that the father was free from syphilis at the time of conception. (2) The infection of the mother during pregnancy, and her freedom from the disease previously, must be proven beyond doubt. (3) The child must have unmistakable lesions acquired before birth. Dr. Post then reported a case in which the following facts were observed by himself and another physician: The previous good health of the mother was known; the primary sore was seen on the mother during the seventh month of her pregnancy; the secondary eruption occurred at about the average time, and was in full bloom at the time of delivery, two months later; the child was born apparently healthy, or at least without skin-lesions, but a perfectly characteristic eruption, with accompanying snuffles, showed itself at the end of a week; the father accused his wife of having given him the disease when she first showed her local lesions, but afterward confessed that he had acquired the disease outside of marital relations and transmitted it to his wife. The only point where the evidence is assailable is the failure to examine the father as to the truth of his story. Dr. Post reported three other cases where syphilis of the child was thought to be due to inoculation of the mother during the course of her pregnancy, in each case by the father, who had acquired the disease after conception had taken place.

R. W. TAYLOR, M.D., of New York, said that Dr. Post, in his paper, assumed that syphilis was a bacterial disease, and while analogous evidence strongly pointed to such an etiology, yet true scientific evidence to that effect was lacking. The placenta, as a rule, is a good filter, preventing the transmission of the red blood-corpuscles, which seem to be the vehicles of the disease, but if this is so, why have the microbes of syphilis not been found in them? Women who are infected with syphilis during the first few weeks of pregnancy, usually give birth, toward the end of the fourth or fifth months, or perhaps later, to a macerated fetus. When the infection occurs after the fourth or fifth month, they may give birth to either a macerated fetus or a puny, miserable child, which, at birth, shows no evidence of the disease. Admitting that syphilis is due to a microbe which resides in the red blood-corpuscles, and is prevented from coming in contact with the fetus by the placenta, there is nothing to prevent the constant interchange of serum between mother and fetus, and this carries with it the toxins of the disease. In the case reported by Dr. Post, it was a matter of regret that he did not give the father a thorough examination to prove the truth of his statements. Assuming that the father's story was true, and that this was a reliable case of post-conceptional syphilis, it was probably to be attributed to the fact that the placenta of that mother was not competent, that in the utero-placental circulation, owing to a rupture or thrombosis, or some other lesion, there was an interchange of red blood-corpuscles and true syphilitic infection of the fetus.

P. A. MORROW, M.D., of New York, said he had always accepted the theory that syphilis of the mother, acquired after conception, may be communicated to the fetus, and also that the disease may be communicated to the mother by a syphilitic fetus. He had observed a number of cases where the wife was inoculated during pregnancy by a syphilitic husband who had contracted the disease after procreation, resulting in an offspring with unmistakable evidences of syphilis. The theory that the placenta acts as an absolute filter, preventing contact of the syphilitic virus with the fetus, did not, in his opinion, rest on sufficient evidence. He believed that almost all authorities at the present day recognized that the mother may receive infection from a syphilitic fetus, and that the mother, healthy at the date of conception, may afterward contract syphilis and communicate it to her child in utero.

DR. WHITE said there can be no doubt that the placenta acts as a filter. This has been shown experimentally in animals. The speaker expressed the opinion that while the fetus may be influenced by the toxins of syphilis, even to the point of death, he did not credit the theory that syphilitic manifestations in such a child after birth were due to the toxins alone, the placenta having acted as a competent barrier against the invasions of the bacteria themselves. One reason which may account for the rarity of post-conceptional syphilis, probably is that the child, under these circumstances, must undergo a species of vaccination.

DR. STURGIS said it was by no means certain that a bacterium is the etiological factor of syphilis, nor had he ever been able to accept the theory that the placenta acts in the capacity of a filter. It was well known that certain diseases can be transmitted by the mother to the child in utero, which compels us to admit that if the placenta does act as a filter, it is a pretty poor filter after all. Cases of syphilis had been reported where the mother was infected as late as the eighth month, and he expressed the opinion that many similar cases escaped notice for the simple reason that it is exceedingly difficult to get an accurate history of such cases. In a pregnant woman, the primary lesion is apt to escape notice, or may be attributed to some irritation.

DR. POST, in closing the discussion, said that to make a plea for closer observation in these cases was one of the chief objects of his paper.

J. P. TUTTLE, M.D., of New York, reported

TWO CASES OF URETHRAL CHANCRE WITH UNUSUAL SECONDARY SYMPTOMS.

In the first case, the chancre was situated within the urethra about three-quarters of an inch back from the meatus. About ten days after its appearance, the patient complained of general malaise, his temperature rose to 104° F., and he developed an eruption almost typical of

measles, except that it was largely confined to the trunk and upper extremities, and had the copper-colored tinge suggestive of syphilis. There was no bronchial irritation. Later, distinct mucous patches appeared on both tonsils. The eruption lasted about two weeks. The patient improved under specific treatment. The second case reported was one of urethral chancre, followed by muscular pains, which were worse at night, and were so severe in character that hypodermic injections of morphin were necessary to allay them. This patient also developed an endocarditis, and subsequently a meningitis, from the effects of which he had not yet recovered. Dr. Tuttle said he was still in doubt as to whether the muscular pains and the cardiac and nervous symptoms were specific in origin, or due to rheumatism or some other constitutional diathesis.

JOHN A. FORDYCE, M.D., of New York, read a paper entitled

CLINICAL AND PATHOLOGICAL NOTES ON SYPHILIS.

The first portion of the paper was devoted to a description of the pathological appearance of the lesions met with in the various stages of syphilis. The second portion was devoted to the subject of *myositis syphilitica*. The author stated that while involvement of the muscles in syphilis is by no means of frequent occurrence, it is met with both in the early and late stages of the disease. Before or during the outbreak of the early eruption, general or localized muscular pains not infrequently occur which simulate rheumatism and interfere to some extent with the movements of the implicated muscles. These muscular pains are transient in duration, produce, as a rule, no evident change in the parts, and readily disappear under specific treatment. In the late secondary or tertiary periods of the disease a diffuse or gummatous myositis has been observed. Both of these forms impair the functional activity of the muscles and lead at times to permanent changes in the parts. The disease seems to show a predilection for certain muscles or groups of muscles, among which may be mentioned the biceps, the flexors of the forearms, the masseter, the sphincter and externus, the deltoid, and the sternocleidomastoid. In diffuse syphilitic myositis the first changes seem to take place in the blood-vessels of the interfibrilary connective tissue, the muscular substance being affected secondarily. In neglected cases, or where the cause is not recognized, atrophy may occur and a complete cure become impossible. A correct diagnosis and early treatment insures, as a rule, a good prognosis. The speaker then reported a case of syphilitic myositis occurring in the second stage of the disease; in this case the left sternocleidomastoid was affected. The case occurred in the practice of Dr. P. A. Morrow. Another case was reported illustrating the gummatous type of the disease. In that instance also the sternocleidomastoid muscle was involved. In the concluding portion of his paper, Dr. Fordyce reported in detail an interesting case of brain syphilis. Numerous photographs were exhibited in connection with the various subjects discussed in the paper.

DR. TAYLOR said that Dr. Fordyce's work in the pathology of syphilitic lesions, as well as his description of the muscular lesions of syphilis, were entirely in accord with our classical knowledge. The clinical cases reported, particularly that of brain syphilis, were very interesting.

DR. POST said that during the past year he had seen two or three cases of myositis which clinically might be syphilitic, but which occurred in individuals in whom no history of that disease was obtainable, nor were there any other symptoms pointing to it.

GEORGE E. BREWER, M.D., and PEARCE BAILEY, M.D., of New York, presented the

CLINICAL AND PATHOLOGICAL REPORT OF A CASE OF CEREBRAL SYPHILIS.

F. M. A., aged twenty-five, single. Was first seen in the autumn of 1892. Family history negative. Aside from a moderate amount of neurasthenia the patient had alwas enjoyed fair health. At the time of his first visit he complained of headache, sore throat, deafness, ringing in the ears, and general malaise. Upon examination, an indurated ulcer was found on the penis, with enlarged inguinal, cervical, and epitrochlear glands. There was a well-marked macular syphilide on the chest and abdomen; mucous patches were found on the tongue, lips, and tonsils; there was an otitis media on the left side. Under the use of inunctions, which were continued for several months, followed by the protoiodid of mercury, given internally, rapid improvement in all his symptoms took place, and he returned to his home in the South, where for a period of eighteen or twenty months he was under the care of another physician, who prescribed mixed treatment. During all this period he remained well and was free from noticeable manifestations of the disease. About three and a half years after the date of the original infection he again came under observation, complaining of severe occipital headache, radiating down the back, and accompanied by occasional attacks of vertigo. The pain was more severe at night, and was sometimes associated with nausea, vomiting, and extreme restlessness. Examination at this time revealed slight enlargement of the left pupil, incipient double optic neuritis, and a marked increase in all reflexes; no paralysis; no foot clonus; no changes in sensation; no loss of sphincter control. Under mercurial inunctions and increasing doses of potassium iodid, rapid improvement in all his symptoms occurred. On April 20th, after five days of freedom from headache and all abnormal head symptoms, he was suddenly seized with loss of consciousness and an epileptiform convulsion, involving all the extremities. Ten hours later another slight convulsion occurred. He became restless, excited, and mildly maniacal. The temperature, which up to the present time had been normal, now rose gradually to 104° F. The pulse remained below 100 and was firm and regular. There was no embarrassment of respiration. In spite of vigorous antisyphilitic treatment, he gradually sank into a comatose condition, and died on May 6th, 1896.

At the autopsy, made a few hours after death, the pia appeared normal over the convolutions, but at the base of the brain it was opaque and thickened. At the superior termination of the basilar artery, and enclosed by thickened meshes of the pia, was a round tumor, seventy-five milli-

meters in diameter. This tumor lay between the third nerves, slightly indenting the pons, on the under surface of which it pressed. It was formed by an aneurismal dilatation of the basilar artery, the walls of which were partially destroyed. The basilar artery was filled with a red thrombus throughout its entire extent, and the upper portion of the vertebrals and part of the posterior communicating arteries were likewise occluded. There was no softening. Microscopical examination showed an endarteritis of some of the large arteries at the base of the brain and the aneurismal dilatation of the basilar artery.

DR. BAILEY, in discussing the paper, referred to the rarity of cases of acute cerebral syphilis, which afforded an opportunity for pathological investigation. The pathology of cerebral syphilis showed that the blood-vessels were the most common seat of the lesions in fatal cases. It was not definitely known in which coat of the vessel the morbid process begins, but the intima showed the most marked changes. It was impossible to distinguish, histologically, between specific endarteritis and endarteritis due to atheroma. The prognosis of acute cerebral syphilis depends upon the predominating anatomical character of the inflammation.

REVIEWS.

BURDETT'S HOSPITALS AND CHARITIES; 1896. Being the Year-book of Philanthropy. Seventh year. London: The Scientific Press; pp. 856.

THE author of this volume is well known by his famous work on the "Hospitals and Asylums of the World," the materials for which was collected during a personal visitation of the hospitals of all countries. This "Year-book" is the seventh of the series and its statistical matter is for the year 1894. The author states that this book deals each year with institutions which expend twenty to twenty-five millions. It contains, in convenient form for study or reference, the revenue, cost, and management of the charities of all English-speaking nations. An examination of its pages shows that it makes a just claim to be a reliable guide to British, American, and Colonial hospitals and asylums, medical schools and colleges, religious and benevolent institutions, dispensaries, nursing and convalescent institutions.

Nearly one-third of the volume is devoted to a discussion of the many current and vital questions connected with public charities. In as many chapters we find the subjects to be "Events and Progress in 1895:" "The Misuse of Hospitals;" "A Central Hospital Board for London;" "The Cost of Hospital Management and In-and-Out Patients' Maintenance;" "Some General Charities, including Home and Foreign Missions;" "Orphanages, Homes, and Refuges;" "Convalescent Homes and Institutions for the Blind, and the Deaf and Dumb:" "Hospital Finance;" "The Hospital Commissariat;" "The Construction of Hospital," etc.

These chapters are full of information, and suggestions which ought to have a wide diffusion among those engaged in the supervision of charities of every variety. A study of these chapters would be of special value to legislators, and to the charitable public, on whose donations institutions of this kind depend for support. The author condemns unsparingly the real vices of administration of charities, while he generously defends them from the too common charge of great recklessness of expenditure of funds contributed for their support.

BORDERLAND STUDIES: Miscellaneous addresses and essays pertaining to medicine and the medical profession, and their relations to general science and thought. By GEORGE M. GOULD, A.M., M.D. Philadelphia: P. Blakiston, Son & Co. Pp. 384.

THE author of these essays is no stranger to these columns; indeed, not a few of the essays first saw the light in the NEWS during his period of service as editor. Most noticeable is their deeply thoughtful and argumentative character, often their somberness, sometimes with an undertone of sadness, not infrequently an appealing quality, whether the author wills it or no. So far as we can comprehend the author's faith, it is nor to us a cheerful one. Schelling and Schopenhauer are not cheerful masters. LIFE, as a divinity, a basis of faith and hope, is often appealed to; but whether as supreme, in a pantheon, remains to us obscure, both as to concept and expression.

That the fact of immortality should be questioned seems to the author irrational, if not immoral; but immortality of what, and leading to what experience? Is it the immortality of mere atoms, or of something else? The author does not appear to know; and if others have clearer vision in such matters, or, at least, conceptions which are more satisfying to them and quite as logical, from their premises, wherein is the utility or the humanity in arguing them away and replacing them not at all, or with nothing which is substantial to those who are most concerned.

We have given the metaphysical elements of these essays this prominence, for they are really the most noteworthy, and the author's bias in this direction is all too evident, notwithstanding his consignment, in his first essay (p. 23) of all metaphysics, theology, and philosophy to the uttermost limbo when compared with the results and advantages of modern science.

In the essays concerning language, especially medical terminology, we can scarcely agree with him as to his orthography or his etymology. As a purist, he surely should not approve of hybrid and incorrect terms merely because usage has sanctioned them; and as a purist, again, his choice of terms (*e.g.*, baddish, bunglesome, pernicketty) is frequently quite as objectionable as those which he dislikes.

Notwithstanding the opposition which is aroused, we are willing to credit our author with much that pertains to the sincere reformer, much that implies struggle and aspiration for higher and better things, politically, morally, and socially. His love of nature, animate and inanimate, hatred of shams, desire for that which is unconventional, appreciation of that which is beautiful in nature and in art, all declare what the man is, find expression often in terms of decided beauty, and will meet with the responsive chord in many who will disagree most radically with his theological and metaphysical speculations.